OCTOBER

(OCTOBER-NOVEMBER)

1946

FOOD PREVIEW

In this issue

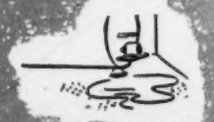
33 Articles Covering

- NEW SOLUTIONS of PLANT PROBLEMS
- DEVELOPMENTS in PRODUCTION MATERIALS
- PROCESS INSTRUMENTS and CONTROLS
- PRACTICAL IDEAS ADAPTABLE to PROCESSING
- PACKAGING, MACHINERY and EQUIPMENT DEVELOPMENTS

Machine wraps 110 candy bars per min.
—handles irregular shapes—

NOW
IS THE TIME
TO PUT IN
Emery Aggregate

NO "FLOOR FAILURE" WORK INTERRUPTIONS



EXTRA RESISTANCE TO MOST ACIDS

LOW INSTALLATION COST

NO "SLIPPING FLOOR" SLOWDOWN OR ACCIDENT COSTS

. . . for patching, resurfacing or entirely new floors

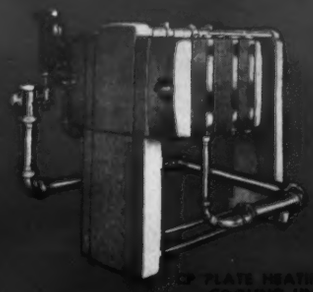
CP Emery Aggregate answers the three big floor problems in the food field. It produces a floor that is exceptionally high in *compressive* and *tensile* strength . . . that gives long service under abusive wear. It produces a non-slip surface that stays that way. And it gives extra resistance to most acids because the graded irregular Emery Aggregate particles bind with cement to form a dense concrete mass that retards acid penetration below floor surface.

If your base floor is in good condition, you can resurface with CP Emery Aggregate with the assurance that you will secure a satisfactory bond and long wear.

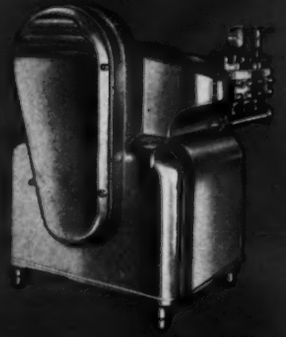
If there are bad spots or worn aisles, you can patch them effectively with CP Emery Aggregate.

If your base floor is not in good condition, a completely new CP Emery Aggregate floor can be laid quickly and economically . . . ready to carry full loads within 48 hours. *Send for full facts today.*

Creamery Package
FOOD PROCESSING
EQUIPMENT



CP PLATE HEATING and COOLING UNITS



CP Multi-Process Tank

SALES BRANCHES

Atlanta • Boston • Buffalo • Chicago • Dallas
Denver • Houston • Kansas City • Los Angeles
Minneapolis • Nashville • New York
Omaha • Philadelphia • Portland, Ore.
St. Louis • Salt Lake City • San Francisco
Seattle • Toledo • Waterloo, Ia.

THE CREAMERY PACKAGE MFG. COMPANY
General Office: 1243 W. Washington Blvd., Chicago 7, Ill.
CREAMERY PACKAGE MFG. CO. of CANADA, Ltd.—Toronto

OTHER GOOD THINGS FROM CP

"That's Interesting"

Black Stainless Steel

Stainless steel with a black finish is produced by a new process in which the steel is immersed in a bath of molten potassium dichromate for from 2 to 30 minutes at a temperature range of from 320 to 500 degrees C. Patent 2,394,899 granted to I. C. Clingnam of Baltimore, Md., assignor to American Rolling Mills, Co.

New Organic Refrigerant

A new fluid for use in mechanical refrigerators is known as 1, 1, 1, 2, 2, tetrafluoro-1-chloro-ethane, and has the linear formula CF_3ClCHF_2. It passes from gaseous to liquid state at a temperature of 13.6 degrees above zero F. and does not solidify until it reaches 179 degrees below zero. Patent 2,393,304 granted to A. F. Benning, F. B. Downing, and Dr. R. J. Plunkett of Wilmington, Del. and assigned to Kinetic Chemicals, Inc., Wilmington, Del.

Cinnamon Substitute from Waste Oat Hulls

A substitute for cinnamon may be obtained from waste oat hulls. Reports of experiments with sixteen possible cinnamaldehyde substitutes states that five were found to yield cinnamon tastes. The most promising was furanacrolein, a product derived in two simple steps from waste oat hulls. (As reported by Dr. Carl Bordenca of Southern Research Institute, Birmingham, before the American Chemical Society.)

Machine Picks Mulberry Leaves

The silk producing industry is dependent upon mulberry leaves as food for silk worms. Cheap labor has in the past confined most of the industry to Japan. Now a new mulberry leaf picking machine and a reeling machine, along with the California three crop year as compared to Japan's one, will reduce the cost to a competitive level with the Japanese industry. (As reported in Denver Equipment Company's Deco Trefoil, Denver, Colo.)

Seek More Efficient Formula For Removing Printing From Cotton Bags

Textile shortages have emphasized the traditional re-use of cotton bags such as those used for feed, flour and sugar. The extent to which printing can be removed from them is, of course, a factor in processing them for further service. Methods of removal to date are somewhat less than 100% efficient. To encourage development of a means of more complete removal an industrial textile producer is at present offering a prize of $500 for a chemical formula which will satisfactorily bleach or remove printing from bags. (Burcott Mills, 622 W. Fulton St., Chicago 6, Ill.).

(*Continued on next page*)

For more information on product at left, specify FP 6833 . . . see information request blank between pages 2-3.

Check Below For More Product Information

EVERY PRODUCT DESCRIBED IN THIS ISSUE IS LISTED ON THIS SHEET. Check items that interest you, fill in your name and address on reverse side and mail to publisher. Information comes to you direct, without obligation.

√	Key	Product
☐	6833	Dairy Equipment
☐	6834	Tank & Mixer Bulletin 822
☐	6835	Industrial Trucks
☐	6836	Rotary Pressure Joints
☐	6837	Conveyors
☐	6838	Gas-Analysis Recorder
☐	6839	Line & Fitting Tools
☐	6840	Vacuum Can Lifters
☐	6841	Tube Ice Machines
☐	6842	Proportioning Pumps
☐	6843	Conveyor Replacement Parts
☐	6844	Continuous Fondant Machine
☐	6845	Sugar Bulk Handling System
☐	6846	Fruit Flavoring
☐	6847	Lift Trucks
☐	8648	Fiberglas Insulation
☐	6849	Mixers
☐	6850	Laboratory Sifters
☐	6851	Diaphragm Valves
☐	6852	Spray Nozzles
☐	6853	Flue Gas Drying System
☐	6854	Food Colors & Flavors
☐	6855a	Portable Conveyors
☐	6855b	Hand Trucks
☐	6856	Temperature & Humidity Controls
☐	6857	Industrial Trucks
☐	6858	Draintrols
☐	6859	Lighting Fixtures
☐	6860	Spray Nozzles
☐	6861	Portable Conveyor
☐	6862	Bucket Conveyors
☐	6863	Hydraulic Motors
☐	6864	Steam Generators
☐	6865	Spray Nozzles
☐	6866	Water Treatment
☐	6867	Oilers
☐	6868	Liquid Level Controls
☐	6869	Scales
☐	6870	Planetary Speed Selector
☐	6871	Prefabricated Conduits
☐	6872	Electric Hoists
☐	6873	Colloid Mills
☐	6874	Pipe Insulation
☐	6875	Valves
☐	6876	Barrel Trucks
☐	6877	Industrial Trucks
☐	6878	Spray Dryers
☐	6879	Wrapping Machines
☐	6880	Vibratory Feed-Weigher
☐	6881	Vacuum Jars
☐	6882	Containers
☐	6883	Paint
☐	6884	Cartons & Wrappings
☐	6885	Heat Sealing Units
☐	6886	Automatic Weigher
☐	6887	Food Protection Papers
☐	6888	Packaging Machine
☐	6889	Aluminum Foil
☐	6890	Frozen Food Containers
☐	6901	Bank Closing Machines
☐	6892	Wrapping Machines
☐	6893	Heat Sealers
☐	6894	Bag Liners
☐	6895	Bag Packaging Machine
☐	6896	Wrapping Machines
☐	6897	Waterproof Package Liners
☐	6898	Tabulating Packaging Machine
☐	6899	Packaging Machines
☐	6900	Packaging Machinery
☐	6901	Bag Closing Machine
☐	6902	Rotary Sealer
☐	6903	Book — "Into the Locker & Out"
☐	6904	Labelers
☐	6905	Case Sealer
☐	6906	Frozen Food Packages
☐	6907	Protective Coatings
☐	6908	Control Systems
☐	6909	Phase Microscope
☐	6910	Retort Control Catalog 500
☐	6911	pH Instruments
☐	6912	Electric Hygrometer
☐	6913	Ionization Gauge
☐	6914	Differential Transmitters
☐	6915	Filters
☐	6916	Thermometers
☐	6917	Laboratory Glassware
☐	6918	Stainless Steel Thermometers
☐	6919	pH Booklet
☐	6920	Thermostatic Expansion Valves
☐	6921	Temperature Regulator
☐	6922	Water Purity Meters
☐	6923	Sanitary Pumps
☐	6924	High-Lift Stacker
☐	6925	Lab Circuit Tester
☐	6926	Maximum-Minimum Thermometer
☐	6927	Moisture Tester
☐	6928	Pyrometers
☐	6929	Ammeters & Voltmeters
☐	6930	Density Instruments
☐	6931	Salt
☐	6932a	Colloid Assistant
☐	6932b	Agar-type Gelatin
☐	6933	Ascorbic-Citric Acid
☐	6934	Roof Coatings
☐	6935	Adhesives
☐	6936	Spice Seasonings
☐	6937	Porous Mineral Medium
☐	6938	Invertase (Inverted Sugar)
☐	6939	Refractory Coatings
☐	6940	Spice Oils
☐	6941	Food Plant Cleaners
☐	6942	Carrot Oil
☐	6943	Waterproof Masonry Paint
☐	6944	Pan Cleaners
☐	6945	Santocel (Silica Aerogel)
☐	6946a	Benzoate of Soda
☐	6946b	Benzoic Acid
☐	6947	Waterproofing Coatings
☐	6948	Alkaline Detergent
☐	6949	Continuous Sulfiting System
☐	6950	Insecticides
☐	6951	Calgon
☐	6952	Protective Coatings
☐	6953	Riboflavin Concentrates
☐	6954	Adhesives
☐	6955	Food Plant Cleaners
☐	6956	Plastic Cork Coating
☐	6957	Protective Coatings
☐	6958	Industrial Flooring
☐	6959	Dry Ice
☐	6960	Cold Plates
☐	6961	Filter Fabrics
☐	6962	Rolls
☐	6963	Concrete Sealer
☐	6964a	Degreaser
☐	6964b	Safety Solvent
☐	6965	Corrosion Resistant Coatings
☐	6966	Stainless Steel Equipment
☐	6967	Remote Indicating Control System
☐	6968	Window Decals
☐	6969	Steam Traps
☐	6970	Filters
☐	6971	Scales
☐	6972	Geared Pipe Threader
☐	6973	Electronic Dust Collectors
☐	6974	Solenoid Valves
☐	6975	Portable Elevators
☐	6976	Tomato Processing Data
☐	6977	Frozen Carton Fillers
☐	6978	Mulling-Type Mixers
☐	6979	Steam Trap Bulletin
☐	6980a	Heat Transfer
☐	6980b	Crystallization
☐	6981	Cleaners, Germicides
☐	6982	Stainless-Steel Tubing
☐	6983	Protective Coatings
☐	6984	Brine Treatment for Refrigeration Units
☐	6985	CO_2 Fire Extinguishers
☐	6986	Continuous Processing Units
☐	6987	Fastenings
☐	6988a	Vacuum Pumps
☐	6988b	Pressure Blowers
☐	6989	Ball Bearings
☐	6990	Lighting Equipment
☐	6991	Plastic Aprons
☐	6992	Processing Equipment
☐	6993	Time Controls

Additional items on reverse side

Be Sure To Give Your Address --- See Reverse Side of this Sheet

See Reverse Side of this Sheet

MORE PRODUCT INFORMATION — Continued from reverse side of this sheet. Check items that interest you.

Fill in your name and address below and mail to publisher.

✓	Key	Product
☐	6994	Vacuum Pumps & Blowers
☐	6995	Food Pump
☐	6996	Ultraviolet Sterilizers
☐	6997	Centrifugal Refrigeration Systems
☐	6998	High Vacuum Data
☐	6999	Motor Trucks
☐	7000	Water Conditioning Service
☐	7001	Ventilators
☐	7002	Oil Burners
☐	7003a	Micro-Atomizers
☐	7003b	Micro-Pulverizers
☐	7004	Diaphragm Valves
☐	7005	Synchronous Motors
☐	7006	Pumps
☐	7007a	Skid Platforms
☐	7007b	Semi-live Skids
☐	7007c	Floor Trucks
☐	7008	Book "Canning Course"
☐	7009	Electric Motors
☐	7010	Pipe Cutter
☐	7011	Grease Interceptors
☐	7012	Mixers
☐	7013	Oldsmoloy
☐	7014	Steam Traps
☐	7015	Bulletin-Stainless Steel Valves
☐	7016	Porous Stone Strainers
☐	7017	Overhead Conveyors
☐	7018	Flow Meter Data
☐	7019	Pumps
☐	7020	Pipe Threaders
☐	7021	Valve Re-seating Machines
☐	7022	Bacterial Detergent
☐	7023	Controllers
☐	7024	Industrial Flooring
☐	7025	Portable Viscosimeter
☐	7026	Condensate Return
☐	7027	Stainless & Alloy Castings
☐	7028	T-ring Packing
☐	7029	Chilled Water Units
☐	7030	Electric Tools
☐	7031	Emulsifier-Homogenizer
☐	7032	Flared Tube Fittings
☐	7033	Lift Trucks
☐	7034	Vibrating Screens
☐	7035	Packless Expansion Joints
☐	7036	Flavolator
☐	7037	Rotary Dryers
☐	7038a	Vacuum Pumps
☐	7038b	Vacuum Gauges
☐	7039	Water Softeners
☐	7040	Roller Chain Drives
☐	7041	Screw Conveyors
☐	7042	Processing Equipment
☐	7043	Gas Mixers
☐	7044	"Auto-Centri" Clutch
☐	7045	Stainless-clad steel
☐	7046	Votator
☐	7047	Mechanical Seal
☐	7048	Fire Hose
☐	7049	Filters
☐	7050	Mechanical Insect Control
☐	7051	Bucket Pumps
☐	7052	Air-foam Extinguishers
☐	7053	Magnetic Separators
☐	7054	Electric Unit Heaters
☐	7055	Atomizing Nozzles
☐	7056	Dust Collectors
☐	7057	Liquid Level Controls
☐	7058	Motor-Operated Valves
☐	7059	Floor Patch
☐	7060	Neoprene Gloves
☐	7061	Sight-feed Valves
☐	7062	Utility Conveyors
☐	7063	Electric Heaters
☐	7064	Leather V-belts
☐	7065	Pumps
☐	7066	Industrial Trucks
☐	7067	Centrifugal Pumps
☐	7068	Solenoid Valves
☐	7069	Dust Collectors
☐	7070	Hand Trucks
☐	7071	Inconel Pails
☐	7072	Perforated Metal
☐	7073	Stainless-Clad Steel
☐	7074	Humidity Controls
☐	7075	Recirculating Valves
☐	7076	Motor Trucks
☐	7077	Swivel Joints
☐	7078	Vacreators
☐	7079	Box Markers
☐	7080	High Lift Platform Trucks
☐	7081	Kettles
☐	7082	Air Separators
☐	7083	Pumps
☐	7084	Plumbing Handbook
☐	7085	Dust Collectors
☐	7086	Screens
☐	7087	Vacuum Bottle Fillers
☐	7088	Refrigerated Centrigutes
☐	7089	Fabricated Chemical Equipment
☐	7090	Safety Clothing
☐	7091	Safety Floor Line Markers
☐	7092	Germicides
☐	7093	Pulverizers
☐	7094	Horizontal Plate Filter
☐	7095	Neoprene Coveralls
☐	7096	Mixers
☐	7097	Refrigerant Gas Condenser
☐	7098	Steam Traps
☐	7099	Slurry Pumps
☐	7100	V Belt Drives
☐	7101	Centrifugal Pumps
☐	7102	Corrosion Resistant Equipment
☐	7103	Air-hose Couplings
☐	7104	Water Demineralizer
☐	7105	Washfountains
☐	7106	Conveyors
☐	7107	Roller Mills
☐	7108	Lift Trucks
☐	7109	Steel Strapping
☐	7110	Condenser Tube Inserts
☐	7111a	Stapling Wire
☐	7111b	Stapling Machines
☐	7112	Location for Food Plant
☐	7113	Unscramblers
☐	7114	Safety Drum Slings
☐	7115	Air Filter Cleaner
☐	7116	Hammer Mills
☐	7117	Perforated Metal Screens
☐	7118	Seamless Steel Containers
☐	7119	Pumps
☐	7120	Electric Immersion heater
☐	7121	Overheated Handling
☐	7122	Electric Vibrators
☐	7123	Conveyor Chains
☐	7124	Case Markers
☐	7125	Filters
☐	7126	Hog Gambrels
☐	7127	Stainless Steel Fabrication
☐	7128	Ventilating Equipment
☐	7129	Impact Wrenches
☐	7130	Powered Belt Conveyors
☐	7131	Instant Heaters
☐	7132	Concrete Stave Bins
☐	7133	Floor Mattings
☐	7134	Plastic Coated Belting
☐	7135	Hammer Mills
☐	7136	Floor Resurfacer
☐	7137	Steam Traps
☐	7138	Lifting Machines
☐	7139	Steam Traps
☐	4th Cover	Multiwall Paper Bags

Name ..... Title .....

Firm ..... Main Product .....

Street Address .....

City ..... Zone ..... State .....

Fill in and mail this form to FOOD PREVIEW, 737 N. Michigan Ave., Chicago 11, Illinois

"That's Interesting"

Snow White Potato Chips

Potato chips can now be made snow white if procedures described before the American Chemical Society are followed. The raw potato slices are briefly treated with hot water under controlled conditions before they go into the hot oil bath. The hot water extracts traces of amino acids and reducing sugars which would react chemically during frying to produce the brown color considered objectionable. (As reported in paper by A. R. Patton & W. E. Pike — Colorado State College before American Chemical Society.)

Artificial Frost

An artificial frost in the form of a compound — dinitro-ortho-secondarybutyl-phenol — supplants natural frost as a potato vinekiller. Late blight, which causes black inedible spots, occurs when potatoes are dug and come in contact with infected vines. Secondary growth comes when frost arrives too late to stop growth, once potatoes have reached desirable size. This artificial frost largely solves the problem of potato vines which clog digging equipment. Due to use of DDT vines have become healthier and a more stubborn interference to digging machines. The frost is known as Dowspray 66 Improved. (Dow Chemical Co., Midland, Mich.)

Magnetized Sideways

An east-west compass is made possible through silmanal's ability to be magnetized sideways rather than lengthwise. Silmanal's contribution in this particular instance has so far been of no practical value. Its great cohesive force, which permits it to withstand severe demagnetizing effects, makes it serviceable in electric relays and in instruments where service in strong electric fields is required. (General Electric News Digest, General Electric Co., Schenectady, N. Y.)

Hopper-Car Weight Cut 3¼ Tons

Carnegie-Illinois Steel Corp. (U. S. Steel Subsidiary) is exhibiting a new design of all-welded hopper car built of Cor-Ten (a superior grade of steel) which saves 3¼ tons of weight as compared with a similar car constructed of carbon steel. The increased saving in weight is attributed both to the material and the method of construction. The alloys contained in U. S. S. Cor-Ten give it high strength and resistance to atmospheric corrosion. The welded construction simplifies design besides eliminating laps and providing seals against moisture. With a nominal capacity of 50 net tons, the car has an actual carrying capacity of 67½ tons. The weight of the car when empty is only 33,500 pounds or 6540 pounds less than if it had been built to the standard carbon steel specifications of the Association of American Railroads.

Cor-Ten was first used in 1934 and since that time some 65,000 freight cars have been constructed of this material with an average saving of 2¼ tons per car. The new all-welded hopper car is able to haul as revenue freight 3¼ tons which would otherwise be part of its own weight. (United States Steel News — Pittsburgh 30, Pa.)

Chicago — Inventor's Paradise

A monthly digest of invention will be published by the National Foundation for Science & Industry (160 N. La Salle St. Chicago, Ill.). This will be sent to some 10,000 manufacturers throughout the country. Another organization of similar interest now established in Chicago is the World Invention Exposition which will be housed in its own building in the near future.

Passenger Car Refrigerators

What is aptly termed a "treasure chest for travelers and sportsmen" is a sturdy metal container embodying two compartments. Provision is made for storing 40 pounds of ice so that fresh foods and bottled beverages may be kept cool. The chest is made by A. B. Davis Co. of Dallas, Texas.

(*Continued on third cover*)

HERE'S THE ANSWER TO THAT LIQUID MIXING OR STORAGE OPERATION...

PFAUDLER'S *Stainless Steel* "PB" *Series*

CAPACITIES 30 TO 500 GALLONS

Pfaudler Vertical Open-Top "PB" Storage and Mixing Tanks with one-piece stainless steel covers. Capacities, 30 to 500 gallons.

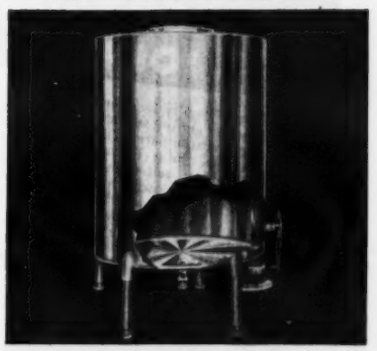
Any number of food plant operators are using Pfaudler's "PB" Series of light gauge stainless steel mixers and storage tanks today. How about you? If you are not aware of this line, let us send you Bulletin 822!

This equipment is built to a high standard of sanitary design of type 302 stainless in three basic designs—vertical open top, vertical closed top and horizontal. Bottom heads of vertical tanks are dished and channeled to a 1" I.P.S. male threaded outlet near side wall. This provides complete drainage and convenience in operating the 1" stainless steel flush valve. Stainless steel leg brackets with adjustable sanitary leg supports and ball feet make up the base unit.

To this may be added such accessories as a side or bottom stainless steel agitator, motor driven; open or closed gauge glasses, casters to make tanks portable, vapor tight (no pressure) one-piece covers, etc.

Why not consider the application of this equipment in your operations? Bulletin 822 gives you the complete story. It's yours for the asking!

Pfaudler Horizontal "PB" Storage Tanks are built with dished heads for strength and legs are attached to stainless steel band for added support. Motor driven agitator also available. Capacities, 300, 400 and 500 gallons.



Pfaudler Vertical Closed-Top "PB" Mixing Tank with one-piece manhole cover. Note drainage channel to stainless flush valve. Capacities, 100 to 500 gallons.

LOOK FOR PFAUDLER on the stage—BOOTH 117 Dairy Industries Exposition Atlantic City, Oct. 21-26

Pfaudler

THE PFAUDLER CO., ROCHESTER 4, NEW YORK

ENGINEERS AND FABRICATORS OF FOOD PROCESSING EQUIPMENT

Glass-Lined Steel . . . Stainless Steels . . . Nickel . . . Inconel . . . Monel Metal

When inquiring specify FP6834 . . . see information request blank, pgs. 2-3

The Most Simple Method of Handling Food Plant Loads is always the Best Method

Elwell-Parker can aid in finding *your* "best method!" The E-P Man will *originate* special attachments such as this Vat-Handler—or will plan modern Truck Systems to speed your Packaged Products in Master Unit Loads through processing to your customers—with increased profit to you and them.

Write or wire The Elwell-Parker Electric Company, 4219 St. Clair Avenue, Cleveland 14, Ohio.

ELWELL-PARKER

POWER INDUSTRIAL TRUCKS

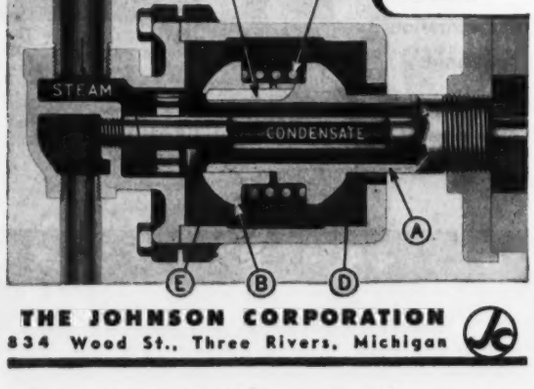
Established 1893

When inquiring specify FP6835 — see handy form pages 2-3

GOT A JOB FOR JOHNSON JOINTS ?

You have if you're faced with a problem that involves getting steam or liquids into rotating machine parts. The Johnson Rotary Pressure Joint is completely packless, self-oiling, self-adjusting, and even self-aligning. Industry has already put 100,000 to work, in barely ten years. Type B shown provides for condensate removal; other types and sizes for all needs. Write for details.

Nipple (A) connected to roll or drum. Sliding collar (B) keyed (C) to nipple. Carbon - graphite seal ring (D) and bearing ring (E) eliminate oiling and packing. Spring (F) is for initial seating only; in operation joint is pressure sealed.



THE JOHNSON CORPORATION

834 Wood St., Three Rivers, Michigan

When inquiring specify FP6836 — see handy form pages 2-3

FOOD PREVIEW

Edited for Production and Laboratory Men in Food Manufacturing

VOL. 7 OCTOBER-NOVEMBER, 1946 NO. 5

What's In This Issue

How To Get More Product Information 2-3
Cover Picture 5
That's Interesting 2, 3, 91
New Solutions of Plant Problems 6
Packaging 18
Control Instruments and Equipment 28
Materials — Production and Maintenance 36
Practical Ideas 46
New Literature — Catalogs and Books 52
Production Equipment 64
Product Directory 89
Advertisers In This Issue 90

Editorial Staff

John C. Vaaler, Editor
Joseph L. White, Managing Editor
Prof. H. McCormack, Technical Editor
H. W. Lichtenberger, Art Editor
H. Lee, Assistant Editor
H. M. Hermanek, Assistant Production Manager

Representatives

Chicago 11, 737 N. Michigan Avenue, Whitehall 5977
C. H. Thomas, James M. Wells, Charles H. Oestmann
Cleveland 15, 801 Caxton Building, Main 3341
Harris N. Pickett
Detroit 19, 18482 Coyle, Vermont 6-3244
Frank E. Landry
Los Angeles 15, 1406 S. Grand Avenue, Richmond 6191
J. H. Tinkham
New England, Union Street, Marshfield, Mass., Marshfield 62RK
Don D. Cummins
New York 17, 12 East 41st Street, Lexington 2-1053
Kenneth S. Kaull, Nathaniel Beck, Norman R. Mackie

Business Staff

Russell L. Putman, President and Publisher
Ewing W. Graham, Vice President and General Manager
D. J. Hansen, Business Manager

Published By

PUTMAN PUBLISHING COMPANY
737 N. Michigan Ave., Chicago 11, Illinois
WHItehall 5977

Over 25,000 Circulation in Food Manufacturing Plants

Bakery Products
Beverages, Alcoholic & Non-Alcoholic
Canned, Preserved & Dehydrated Foods
Confectionery and Chocolate Products
Dairy Products — Milk, Ice Cream, Butter
Frozen Foods
Grain Products — Flour, Cereals, Meals, etc.
Ice & Cold Storage
Meat & Meat Products
Sugar
. . allied lines —
Flavors, Pickles, Vinegar, Gelatine, Oils & Fats, etc.
Equipment Mfrs. and Consultants

Member

National Business Papers Association
Controlled Circulation Audit, Inc.

THIS A-F Engineered Conveyor System in a large Chicago plant eliminates unnecessary handling, saves time, reduces employee fatigue and breakage. Automatic timing devices and brake belts, almost human in their control of production flow, prevent overfeeding of cartons to main trunk lines and result in smooth movement throughout entire plant. Let us show how an A-F Engineered Conveyor System will save time and increase production in your plant now and in the future. Write today!

45 YEARS OF SERVICE TO INDUSTRY

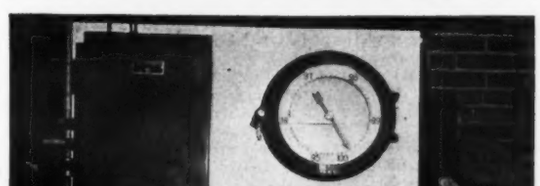
THE ALVEY-FERGUSON COMPANY

65 Disney St., Cincinnati 9, Ohio

Offices In Principal Cities — Coast to Coast

CONVEYING EQUIPMENT
Alvey-Ferguson
METAL PRODUCTS CLEANING & FINISHING EQUIPMENT

When inquiring specify FP6837 — see handy form pages 2-3



MICROMAX Helps Margarine Making By Checking Purity of Hydrogen

The Micromax Gas-Analysis Recorder, shown above, is an "important instrument" in the plant of Capital City Products Co., Columbus, O., who are makers of Dixie Margarine and other edible oil products.

This instrument helps to protect both plant and product by assuring the hydrogen used is practically oxygen-free. Not only does it provide an accurate, instantly-read record, but it sounds an alarm should hydrogen purity fall below standard.

Micromax is available in two models to suit the needs of any plant which uses hydrogen. An L&N engineer will be glad to send helpful data, if you will outline a specific problem.

LEEDS & NORTHRUP CO., 4999 STENTON AVE., PHILA. 44, PA.

LEEDS & NORTHRUP

MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES

When inquiring specify FP6838 — see handy form pages 2-3

The Cover

140 candy bars per minute are wrapped on the machine pictured on the front cover. Irregular shapes are handled and only one operator is required. A story about this unit appears on page 18.

★

How To Get More Product Information

To make it convenient for readers to locate information in FOOD PREVIEW there is . . . on page 89 . . . a complete directory of all products that are featured in editorial articles or described in the advertisements in this issue; on page 90 you will find a list of the advertisers whose products are described in this issue; and to make it easy for you to secure additional information quickly there is a handy request slip inserted between pages 2 and 3.

★

Have You Changed Your Address?

If you have changed your business address recently please notify the publishers promptly so that there will be no interruption in the delivery of FOOD PREVIEW. Please be sure to give both your old and new address; include your title, the name of your company and the main product they manufacture. Full information will secure prompt action.

★

How To Get This Magazine Regularly

The circulation of FOOD PREVIEW is restricted to a selected list of individuals who are actively engaged, in responsible capacities, in food processing plants — chemists, engineers, production and management executives. Subscriptions are NOT SOLD. There is no charge or obligation for the service.

If you would like to receive the magazine regularly, send your request on your company letterhead to the publishers, or use request form inserted next to back cover. To have your request receive prompt consideration give your title, company's name and the main product of your firm. Request should be sent to Circulation Director, FOOD PREVIEW, 737 North Michigan Avenue, Chicago 11, Illinois.

★

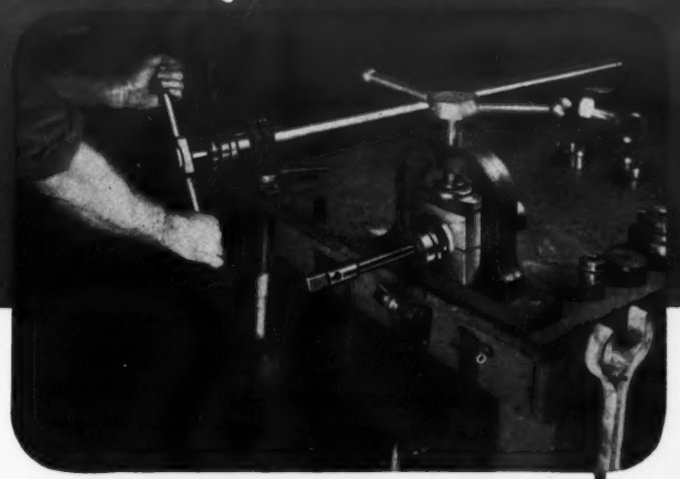
Have You A New Product?

If you have recently developed a new or improved product, a piece of laboratory or plant equipment or a new material, of specific interest in any line of food process manufacturing . . . send information regarding it to our editors. If it meets their requirements, they will introduce it to the food processing industries through the editorial pages of FOOD PREVIEW. More than 25,000 copies of this publication are effectively distributed through the food processing industries.

This service costs you nothing and there is no obligation. Write — The Editors, FOOD PREVIEW, 737 North Michigan Avenue, Chicago 11, Illinois.

Stop Waste...

with LEAK-TIGHT JOINTS



See YOUR TRI-CLOVER JOBBER FOR THESE AND OTHER COST-CUTTING TOOLS

USE TRI-CLOVER *Super Speed* TOOLS FOR SANITARY FITTINGS

★ Costly, messy leakage of your product from worn, improperly seated sanitary fittings can be eliminated quickly, easily and at very low cost . . . by using Tri-Clover *Super Speed* Tools to service all sanitary lines. Use of these efficient tools brings you three major benefits:

1. LEAK-TIGHT JOINTS . . . Extreme accuracy in facing and seating operations assures a perfect seal.
2. FASTER, EASIER INSTALLATION and MAINTENANCE . . . Few simple operations are easily mastered by unskilled workers.
3. LONGER FITTING LIFE . . . Old, worn fittings are quickly renewed for continued service.

Super Speed Tools will pay for themselves over and over again, eliminating leakage and saving time on installation and maintenance. They will also help in protecting product quality, increasing production, and in keeping your plant completely clean.

Write for the new *Super Speed* Tool Catalog 346 today.

Vise and Expansion Blocks — Ferrules are securely held for insertion, expansion, and facing of tubing.

Torqometer — With predetermined inch-pound pressures, inexperienced workers can easily accomplish expansion operations.

Expanders — Simple, efficient tools for accurate expansion of tube into ferrules. Used with torqometer.

Seating Tool — Cutters are reversible for inside or outside bevel. Simple, fast, accurate. Also used for facing.

TRI-CLOVER MACHINE CO.
Kenosha Wisconsin

TRIALLOY AND STAINLESS STEEL

—When inquiring specify FP6839 . . . see information request blank, pgs. 2-3—

Vacuum Lifter SPEEDS Transfer of Cans to Retort Crates

Machine Makes Crushed Ice in 13 Minutes Tube Ice in 40 Minutes

New Solutions

Vacuum lifter is lowered to cans at end of closing machine discharge conveyor — suction being maintained while valve trigger is held in upward position

After each can has been gripped by rubber vacuum cup the entire load is easily raised and moved as weight is equalized by a counterbalance

Only a slight downward pressure is required to lower cans into retort crate

Release of trigger frees cans from hold of rubber cups and lifter is then ready for next load of cans

★ ***Counter-balanced machine requires only slight exertion necessary to guide it; rubber cups grip each can securely***

PROBLEM — Transferring cans from closing machines to retort crates by such methods as strapping is not performed with the degree of efficiency generally achieved in the various other operations in most modern canneries. A safe, speedy, labor-saving method has been sought.

Solution — A vacuum-operated lifter employing a series of rubber cups, each of which grasps a single can securely, provides an almost effortless means of handling. Vacuum is supplied by pump, 15-18 inches being ample for operation in most cases. Pick-up and release of cans is controlled by a convenient valve trigger. The series of photos shows the sequence of the four simple steps by which the transfer of cans is accomplished. (1) Machine is placed on cans with a slight downward pressure and valve trigger is held in a raised position. (2) Cans are being lifted from discharge conveyor of closing machine. (3) Cans are lowered into crate. (4) Suction is cut off and lifter released from cans. The conveniently arranged valve trigger and the use of counter-balance weight and a pulley contribute to ease of handling cans so that operator is required to exert effort only to guide movement. Lifting, lowering and maneuvering are achieved with slightest pressure. The lifting apparatus as supplied by the maker consist only of the lifting device itself: frame, valve, trigger, cups. Because of the variety of discharge conveyors on closing machines it is recommended that in installing this "lifter" that the users secure their own conveyor as a suitable design. The manufacturer of the closing machine in use may be of help in this instance. The other materials required include hose, counter-weight, vacuum pump and ordinary galvanized pipe. The closing machine conveyor should be approximately 6 to 8 feet in length and divide the cans into two rows by an oscillator divider or an alternating lugged closing machine chain.

A 12 can lifter requires 6 cubic feet of vacuum per minute. On a twelve can Number 2 pick-up machine the weight is approximately 20 pounds. The lifter is built in models to handle Number 2 and Number 10 cans and in the future will be available for any size container — tin or glass from an 8 oz. to a Number 10. Detailed information and literature describing applications and installation of this equipment on request.

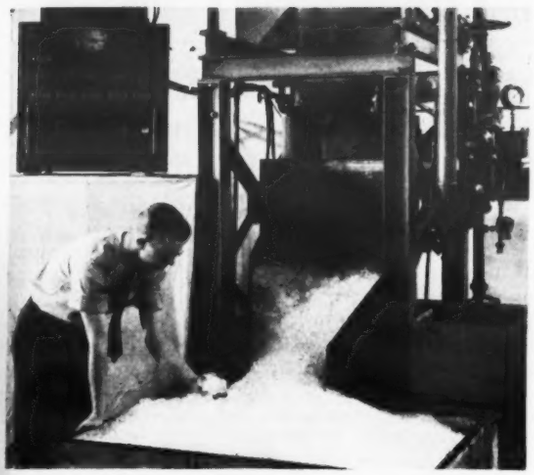
ENGLER VACUUM LIFTER, INC., Dept. FP, Beaver Dam, Wis.

When inquiring specify FP6840 — see handy form pages 2-3

● ***Operation of compact units entirely automatic; permits extensive use of ice at low cost***

PROBLEM — Both large and small food processing plants requiring ice in many cases would like to increase their available supply and extend its use to many operations. Many food processing plants — large and small — would like to increase their available supply of sized ice and extend its use but the factor of cost presents definite limitations. The amount of space that is required by installations of can-ice tank systems is also part of the problem, as are freezing time, power costs, labor and ice waste.

Solution — An efficient, low-cost, convenient method of producing sized ice in its ultimate form is provided in a single, self-contained unit. Designated, the "Tube-Ice" process, it produces clear, hard, ice of can-ice quality and appearance, sized to meet particular refrigerating requirements. The "Tube-Ice" machine is based on freezing ice masses inside tubes not exceeding 2" in diameter with



Bin of crushed ice as discharged from 5 ton tube-ice machine

direct application of the refrigerant to the freezing surface. This freezing is accomplished very quickly and economically. (In making can-ice the block is of 11" standard thickness and the heat from the last few pounds of water must pass through approximately 5½" of ice.) In addition to making sized ice, the machine will supply cold water as required for process work. This is accomplished by merely raising the refrigerant evaporating pressure above that required for making ice. The "Tube-Ice" machine consists of one or more vertical shells containing tubes, an accumulator, cutter, ice chute, pumping tank, water pump, piping and valves. The shell and tubes comprise the freezing unit. The capacity of the machine is determined by the number of tubes installed to meet particular requirements. In making ice, water is pumped from the tank at bottom to distributing box at the top. It gravitates through distributors and is projected over the inner surface of the tubes over which it passes. The refrigerant is admitted into the shell and surrounds the tubes causing ice to form on the inner surfaces of the tubes. The circulation of the water provides a washing action which provides any adherence of impurities contributing to clear, pure ice. Freezing periods are controlled automatically. When high pressure gas replaces the refrigerant in the cell, its action together with that of warm water introduced to the thawing chamber, causes the ice to melt. Thus, freed, the ice descends to a rotary cutting plate. An adjustment of the cutter produces the desired kind of ice. A typical installation is in a lake fishery which uses a single tube unit to provide a supply of 10 tons of crushed ice every 24 hours. Another is in a large packing house which employs two 50 ton machines to supply ice for a fleet of refrigerator cars.

Results — Building space savings of 90%. Freezing time 40 minutes for cylinder ice as compared to 40 hours for tank-ice. Power economies. Automatic operation — only occasional labor required to maintain efficient operation. Thawing and cutting wastes avoided. All meltage resulting from the thawing of ice cubes and the small particles of ice produced by sizing operations, is returned to the system to be frozen. Ice easily sized to meet requirements.

HENRY VOGT MACHINE CO., INC., Dept. FP, 10th & Ormsby Sts., Louisville, Ky.

When inquiring specify FP6841 — see handy form pages 2-3

FOR PRECISION CONTINUOUS BLENDING OF FLUIDS...

Wilson
PULSAFEEDER
Chemical Proportioning Pumps

PATENTS APPLIED FOR

The Pulsafeeder hydraulically-balanced diaphragm isolates pump from fluid being handled. Action of the piston results in like action of the diaphragm, imposes no pressure differential on the diaphragm itself.

The hydraulically-balanced diaphragm does it...

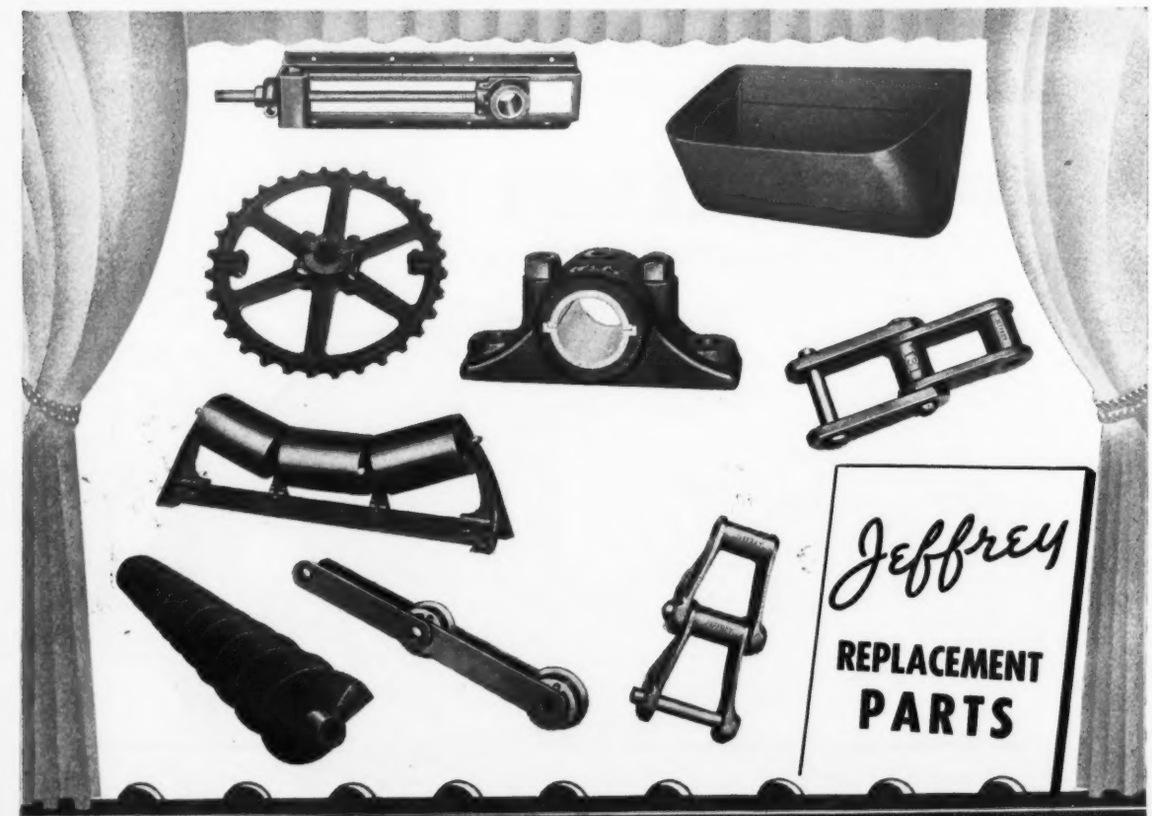
ACCURACY OF FLOW . . . PURITY OF PRODUCT

To assure absolute purity of product with the Wilson Pulsafeeder, it is necessary only to select materials, impervious to the fluid being handled, for Pulsafeeder head, valves and diaphragm. The diaphragm prevents contamination of product from piston, lubrication or packing. It also protects the pump from chemical attack by fluids being handled. Rate of flow is continuously adjustable by micrometer hand knob—*while machine is in operation*—from zero to full maximum. Models available for flow up to 800 gallons per hour, or against pressures up to 5000 lbs. per square inch. Write for description and specifications. *Process Equipment Division, Lapp Insulator Co., Inc., 149 Maple Street, LeRoy, N. Y.*

Lapp *Process Equipment*

LAPP CHEMICAL PORCELAIN VALVES • PIPE • RASCHIG RINGS...
WILSON PULSAFEEDER CHEMICAL PROPORTIONING PUMPS...

When inquiring specify FP6842 . . . see information request blank, pgs. 2-3



Playing an active part in EVERY STAGE of PRODUCTION

Headliners of the conveyor industry. Smooth performance built right into each part . . . the same rules that govern original Jeffrey equipment. Common sense dictates "curtain calls" for Jeffrey parts when replacement becomes necessary. We show just a few . . . more are waiting in the wings.

SEND FOR CATALOG NO. 791

THE JEFFREY MANUFACTURING COMPANY

ESTABLISHED 1877 JM

When inquiring specify FP6843 . . . see information request blank, pgs. 2-3

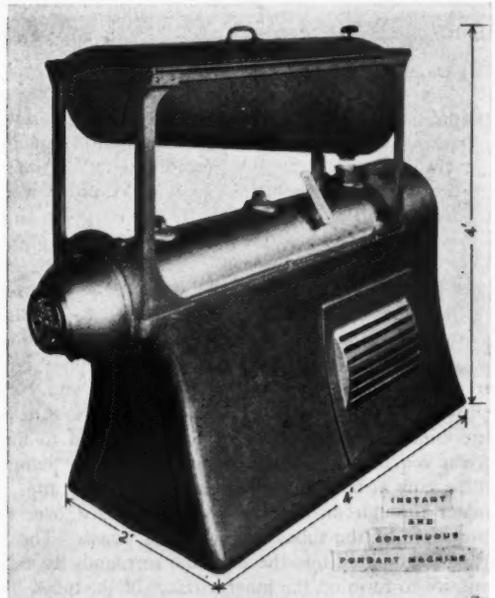
New Solutions

Fondant Machines Will Cream More Than 400 Pounds Hourly

Provides instant, continuous production

Problem — Fondants such as fudges and fillers are mixed in large, open type cream beater with exposed, rotating blades. Confectioners seek more compact, more sanitary, safer, swifter production.

Solution — Continuous production of fondant is achieved by employing a new principle. A water-cooled beating cylinder eliminates necessity for precooling cooked syrup before pouring into hopper. Opening the hopper valve releases steady, continuous stream into enclosed, horizontal beater directly below. Creaming begins instantly. Seconds later, creamy fondant flows from outlet at opposite end of machine. Enclosed operation offers greater sanitation, less industrial hazard, no scraping or scrubbing of cylinder and blades. Compact size (4′ long, 2′ wide, 4′ high). Automatic, uninterrupted operation saves time, expense. Manufacturer claims machine will process 300-400 or more pounds an hour, depending on operator. One, two or three removable hoppers.



Instant and Continuous Fondant Machine

Description — Aluminum construction, overall weight 760 pounds, including motor. One-piece, cast aluminum cylinder contains beater shaft and spiral, nickel-plated, alloy blades. Creams entire length of cylinder. Water jacket entirely surrounds cylinder, assures even cooling. Thermometer attached. Hopper stem valve controls flow of material into beater. Silent grip chain drive motor, 7½ HP, AC, 3-phase, 60-cycle 222/440 volt, concealed directly beneath beater. Bulletin sent on request.

CONFECTION MACHINE SALES CO., Dept. FP, 30 N. LaSalle St., Chicago 2, Ill.

When inquiring specify FP6844 — see handy form pages 2-3

Unloading 100,000 Lbs. of Sugar With One Man Hour of Labor

System of bulk cars, storage bins, conveyors assures dry, pure sugar at minimum handling costs

Problem — Lower costs of handling refined granulated sugar in plants using it in large quantities.

Solution — An advanced system of mechanically handling dry, fully refined sugar has been developed and improved during the past several years by a large sugar company. This organization originated the idea of storing refined granulated sugar in bulk bins at its factory. A typical installation consists of four bins with the star bin being used for necessary conveying machinery and man lifts. Bucket elevators empty sugar in to bins at top and conditioned air is periodically blown through the mass to maintain prime condition during storage. An important factor in this method of handling sugar is the specially constructed bulk sugar car (built for lease or private ownership by the General American Transportation Corp., Chicago.) The contents of the car are not exposed to outside air or dust, protecting it much as a can protects canned foods. The car is well insulated and a suitable lining minimizes breakage of crystals and assures cleanliness. Unloading at buyer's headquarters is under equally sterile conditions.

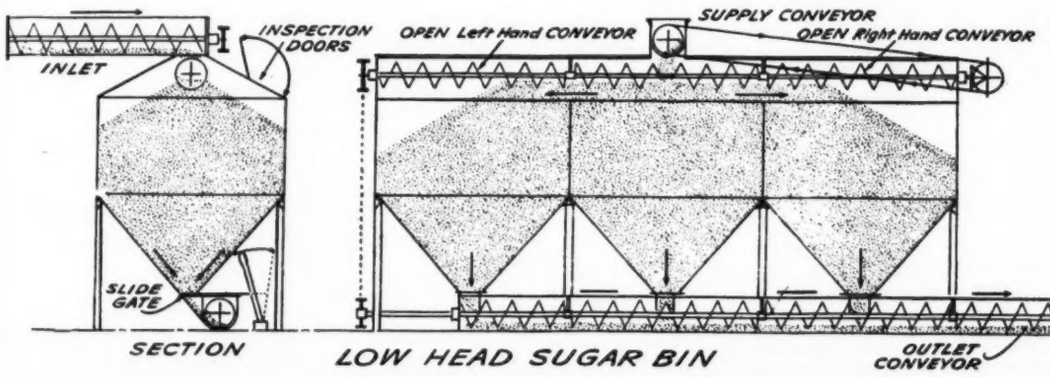
The unloading of a properly designed dry sugar bulk car is a relatively simple matter and can be done in several ways. One typical practical method is as follows: (1) The car is spotted at its special siding under a covered shed (advisable for protection against inclement weather but not absolutely necessary.) (2) Under the tracks is located an "unloading storage bin" with a capacity of about one and one-half carloads. The car can also be spotted on an elevated track above a bin.

The car has three outlets and the bin three corresponding inlets. Telescoping sleeve fittings attach to inlets, preventing entrance of dust and moisture. Dry sugar is carried into the plant by a covered scroll.

The amounts of sugar storage capacity desirable vary from plant to plant. Some will consider one and one-half car capacity unloading bins ample. Others may desire to reduce the size and build additional dry bulk storage inside the plant. Or, it may be preferable to have minimum bulk storage both adjacent to the tracks and in the factory. From storage the dry sugar can be conveyed to melters for making syrup, through screens for separating various size grains, to grinding for making powdered sugar or in its granulated state for various uses.

Sugar storage bins are usually of two types, low head and high head. The low head type, illustrated here, offers advantages where head room is limited. This type is generally rectangular with flat or sloping cover and with multi-inverted pyramid bottoms, having a distributor screw conveyor at the top, and a withdrawal screw conveyor at the apex of the inverted multi-pyramid bottoms. High head bins also utilize multi-inverted pyramid bottoms and other construction features similar to the low head type. Either type may be constructed of sheet steel with supporting steel frame work. Galvanized or stainless steel is preferable.

Results — The labor of only one man per shift is required to: unload bulk sugar, operate scroll to factory, operate the storage bin, operate scroll from storage bin to in-plant processing. Less than one man hour is required to unload and store 100,000 pounds of sugar. Rail freight charges are on dry sugar only. Control of water content (density) of sugar syrups allows making the kind described and if necessary to invert to degree necessary for particular needs. A thirty-six page illustrated booklet presents a comprehensive survey of handling sugar in bulk.



Low head bin with multi-inverted pyramid bottoms

THE GREAT WESTERN SUGAR CO., Dept. FP, Denver 17, Colo.

When inquiring specify FP6845 — see handy form pages 2-3

★

Imitation Strawberry Flavor is Free from Etherial Odor — Contains no Volatiles

Uses — As a flavoring for ice cream, candies, bakers jellies, icings, soft drinks and beverages, whipped cream, gelatine desserts, and similar products.

Features — Product is free from any etherial odor. Basic flavoring components are solubilized and "fixed" in the liquid phase. It contains no volatile solvents.

Description — It is recommended that 2 ozs. of this flavoring be used to a five gallon ice cream mix, 6 to 8 ozs. to 100 lbs. batch bakers' jelly, 4 ozs. to 100 lbs. fondant cream centers, and one oz. per gallon of bottlers' syrup. Full information is supplied on request.

WARREN E. BURNS, INC., Dept. FP, 325 W. Huron St., Chicago 10, Ill.

When inquiring specify FP6846 — see handy form pages 2-3

Again and Again ... They Come Back for THE MOTORIZED HydroLectric

FAMOUS firms continue to re-order HYDROLectric Lift Trucks for one basic reason: **They find HYDROLectrics superior, in performance and economy, to any other motorized lift truck.**

They know they can depend on every HYDROLectric — to **do the work ordinarily requiring 3 or 4 men. Move bigger loads with effortless ease. Speed up handling amazingly. . .Operate 24 hours a day, with absolute safety and negligible downtime. Afford sensational economies — cut handling costs as much as 75% — quickly pay for themselves several times yearly.**

Write today for Folder E for details about this remarkable motorized truck.

USED BY AMERICA'S LEADING INDUSTRIES

Bendix Aviation, Crucible Steel Casting Co., Electric Storage Battery Co., Firestone Tire & Rubber Co., Goodyear Tire & Rubber Co., R.C.A. Victor, Reynolds Metal Co., Wright Aeronautical Corp. — and hundreds of others.

NO OTHER TRUCK HAS ALL THESE FEATURES:

- Positive Gear Drive To Load Wheel • 4 Wheels for Stability
- Costs only 1/3 and weighs only 1/3 of other powered TRUCKS of equal capacity.
- Records up to 21 years of 8 hour day performance.
- Engineered by the Stuebings. Pioneers in Lift Truck Construction since 1910. Patented.

THE RED ARROW

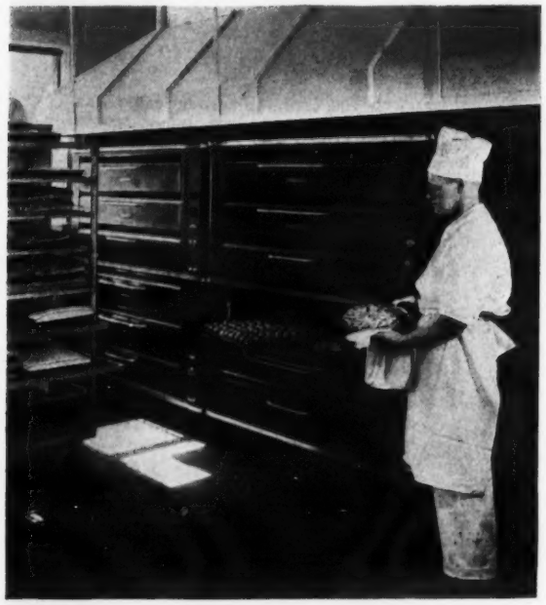
THE HYDROMATIC

Easy single or multi-stroke hand lift trucks. Capacities up to 8000 lbs. Users state they pay for themselves 5 to 10 times yearly.

LIFT TRUCKS, INC.
Walter Stuebing, President
2425 Spring Grove Ave. Cincinnati 14, Ohio

When inquiring specify FP6847 — see handy form pages 2-3

How
BETTER EQUIPMENT INSULATION
makes Better Cooks



Fiberglas-insulated bake ovens in one of America's large universities. Product of The G. S. Blodgett Co., Inc., Burlington, Vermont.

Any cook—he-man or housewife—will tell you that an important part of success in baking depends upon the precise control of oven temperatures . . . and this depends upon *insulation.*

There's good reason why Fiberglas Insulation is preferred for domestic ranges and for the bake ovens, vessels and other equipment installed in food-processing plants, commercial bakeries, hotels and institutions.

Made of fine fibers of glass interlaced into soft, fleecy blankets, Fiberglas Insulating Wool combines *high insulating efficiency* with *light weight.* Being glass, the fibers will not corrode, are noncorrosive to metals in the presence of moisture. And Fiberglas Insulation is resilient, doesn't settle or pack down leaving voids through which heat can escape. Fiberglas is in there to stay!

And on boilers and processing lines, too, Fiberglas Metal Mesh Blankets, PF Pipe Covering and Insulating Cements are playing their economic role in the food-processing industry. Write for "Fiberglas Insulations for Industry": Owens-Corning Fiberglas Corporation, Dept. 2015, Toledo 1, Ohio. Branches in principal cities.

In Canada: Fiberglas Canada Ltd., Oshawa, Ontario.

OWENS-CORNING
FIBERGLAS

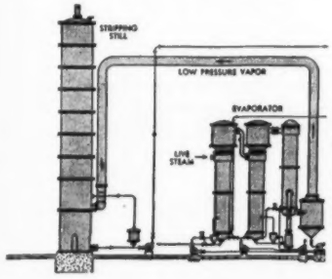
When inquiring specify FP6848 — see handy form pages 2-3

New Solutions

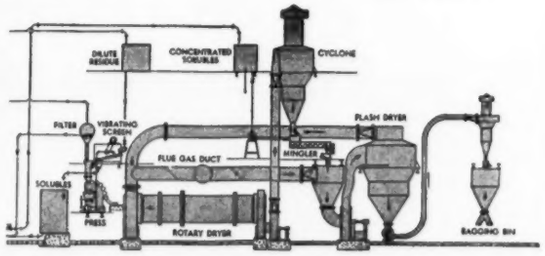
Flue Gas Drying System Makes Spent Grain Recovery Profitable

Does not increase normal fuel consumption; space requirements are minimum; even soluble unscreenable constitutents recovered

Problem — The problems incurred in drying materials to increase their commercial value in distilleries, breweries, food processing plants, dye and chemical plants are all parallel. Details vary in each industry but the most difficult drying problem is probably that of processing distiller's spent grain profitably. In some cases, the cost of



Complete flue gas drying system showing assembly of components and flow of product from stripping still to bagging hopper



recovering spent grain has exceeded the income derived from this source, especially during a depressed market. Drying spent grain with steam or direct firing is very expensive.

Solution — Efficient processing of distiller's waste grains is accomplished by a system assembled from the various units shown in the accompanying illustration. To recover solids from thin slop requires the removal of an enormous quantity of water. To do this in single effect evaporators entails considerable expense and fuel. This system embodies high speed evaporators that concentrate the thin slop to a thick syrup and utilizes waste flue gases in an efficient drying operation. Raw spent mash, after leaving the mash column or the stripping still is first introduced into a vibrating pressure screen, where the screenable solids are screened out, substantially at the same pressure as in the still. Considerable heat is saved at this first stage of the process. The resulting thick material then passes to a continuous roller press, emerging with a moisture content of 68-70%. The liquid thin substance is continuously fed into a pressure-multiple-effect-evaporator where it is concentrated to a free flowing syrup of heavy consistency containing 60% solids. The solid spent grain, issuing from the roller press with 68-70% moisture, is dried to the correct moisture content by a rotary dryer utilizing waste flue gases from the boiler house stack. This solid intermediate product is blown into the atmosphere of the still hot flue gases, which have been accumulated in cyclone separator, from which the solid product is dis-

EASTERN MIXERS DO A BIG JOB IN THE NATION'S FOOD PLANTS

Our Engineering Department has a wide experience in recommending mixers for practically every food mixing requirement . . . soups, juices, jellies, syrups, shortening, extracts, flavors and many more. There is no substitute for this practical experience in supplying the most efficient equipment for each particular food processing application.

MODEL H-1

The mixer shown here meets practically every requirement for stirring thin and medium viscosity liquids. It is Model H-1, ¼ H.P., operates at 1725 R. P. M. and is available with motors of all enclosures. Light in weight, it is readily portable and can be easily shifted from one tank to another. This is important where frequent cleaning or changing of the shaft is necessary. This series is widely used in the food field because of its broad application and comparatively low cost. Quick delivery may now be had on many models of Eastern Mixers.

Write now for catalog on Eastern Mixing Equipment.

EASTERN ENGINEERING COMPANY
44 FOX STREET, NEW HAVEN 6, CONNECTICUT

When inquiring specify FP6849 — see handy form pages 2-3

NIAGARA GYRO-LAB

Portable laboratory sifter duplicates exactly the results of larger production-type machines. Both continuous and time-limit tests.

Inquire about the GYRO-LAB and full NIAGARA line of GYRO-WHIP and SUPER-SIFTER production machines for scientific separation.

RICHMOND MFG. CO.
LOCKPORT, N. Y.

When inquiring specify FP6850 — see handy form pages 2-3

Grinnell-Saunders
DIAPHRAGM VALVES

UNIQUE DIAPHRAGM FEATURE
. . . isolates working parts
. . . protects parts against corrosive fluids
. . . protects fluids against contamination

OPEN

CLOSED

Chemical, food and other processing industries have eliminated most of their valve troubles with Grinnell-Saunders Diaphragm Valves. The resilient diaphragm hermetically seals off working parts from fluid stream. No corrosion of the mechanism—no contamination of fluids. Positive closure is assured even when foreign matter is trapped.

Write for catalog containing detailed data on these valves and their uses. Grinnell Company, Inc., Executive Offices, Providence 1, R. I. Branch offices in principal cities of U. S. and Canada.

GRINNELL

WHEREVER PIPING IS INVOLVED

When inquiring specify FP6851 — see handy form pages 2-3

SPRACO NOZZLES

Write for NOZZLE CATALOG to
SPRAY ENGINEERING CO.
113 CENTRAL STREET • SOMERVILLE 45, MASS.

When inquiring specify FP6852 — see handy form pages 2-3

New Solutions

charged into a continuous homogenizing helical mingler. Here it is merged with the syrup emerging from the pressure-multiple-effect evaporator. This mixture is continuously fed to the flash dryer, especially designed for handling viscous materials, where it is dried to a 7% moisture content with a maximum yield and high protein value. The final product is then blown by means of cool air to a supply hopper for bagging. During this process, the grain is cooled to room temperature.

Results — Some of important economies achieved are (1) Fuel economy as there is practically no fuel consumption above that which is normally required to operate the distillery without recovery of spent grains. (2) Low maintenance and installation costs. (3) Ease of operation and control — requires only two men per shift. (4) Quality and yield of finished product. (5) Minimum space requirements. (6) Superior quality and high protein content in final product. In these installations, the evaporating unit is coordinated with the distilling unit to establish a perfect heat balance. By this arrangement, the evaporators act as heat exchangers in which live steam, ordinary used by the stripping still, is first applied at high pressure to the evaporator. By alternate condensation and generation of steam from the liquid under decreasing pressures, evaporation of the liquid is accomplished and vapor generated from the liquid at a pressure which is applied to the distilling unit or other steam consuming equipment without additional cost. Evaporator tubes are self-cleaning and no forced circulation pumps are necessary. The "Acme Flue Gas Drying Apparatus, Pressure and Vacuum High Velocity Film Type Evaporator System are extremely flexible and adapted to many other products. They may be installed in new or existing plants. Literature and additional information regarding specific applications on request.

ACME COPPERSMITHING & MACHINE CO., Dept. FP, Oreland, Pa.

When inquiring specify FP6853 — see handy form pages 2-3

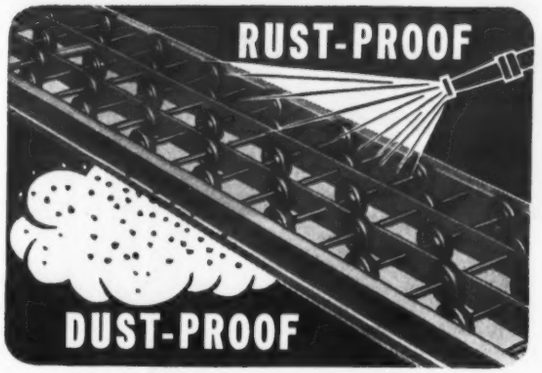
★

Food Colors And Many Flavors Adjusted To Meet Manufacturers' Requirements

A uniform, golden yellow vegetable color for ice-cream cones, sugar wafers, dough, icing, and other related uses is described in a bulletin that covers flavors and colors available to the food and process industries. Listed is a highly specialized vegetable color for cheese and oleomargarine. A chocolate may be had in four rich shades, light, medium, reddish, and dark. A butter color is excellent for grease work or wherever hard fats are used. Non-aniline colors range from brilliant rose and pink to black. 17 essential oils are listed including oil of almonds (Benzaldehyde). It is stated that the manufacturer is in a position to supply almost any flavor desired in powder form. These flavors are particularly adapted for use in products where moisture control is of paramount importance. The flavors listed have been compounded on different bases depending upon the purpose for which the flavor is to be used. It is well known that a hard candy flavor which is to be subjected to a high temperature requires a different composition than one to be used in cookie icings. A number of primary or basic certified food colors together with secondary mixture lists conclude this interesting booklet which will be sent upon request.

JAMES B. LONG & CO., Dept. FP, 4642 N. Ravenswood Ave., Chicago 40, Ill.

When inquiring specify FP6854 — see handy form pages 2-3



Buschman "RED WHEEL"
Portable Conveyors

"Red Wheel" Portable Conveyors are corrosion-proof, made specially for damp or dusty locations. They are INTERCHANGEABLE with the standard Buschman Conveyors, Couplings, stands and other accessories. "Red Wheel" Conveyors are not affected by moisture, dust, grit or fumes.

To assure rust protection, wheel tread and hub are heavy zinc-plated, side disc is red baked enamel. Full ball bearing is sealed against harmful elements. For information on this and standard conveyors — write for Bulletin 10.

A BETTER TRUCK by BUSCHMAN

A NEW ADDITION TO OUR LINE
Made By Materials Handling And Conveyor Experts

This new Buschman hand truck combines durability with light weight. Maneuvers easily. Has steel-disc wheels with replaceable rubber treads. Rubber-tipped handle. Rides smoothly and silently over any surface.

DOUBLE WELDED AT POINT OF GREATEST STRAIN

Side trams extend through toe plates, welded on each side (see diagram). This provides greater strength, longer service life.

Extra Large Toe Plate with beveled edges for easy sliding under loads. Sturdy Skids for easy handling over curbs.

SPECIFICATIONS

MODEL	HEIGHT	WIDTH	WHEELS	WEIGHT
6	48"	13½"	6" plain, oilless-bearing	30 lbs.
8	48"	13½"	8" ball bearing	32 lbs.

Good Delivery Through Our
REPRESENTATIVES IN PRINCIPAL CITIES

THE E. W. BUSCHMAN CO., Inc.
Clifton at Winton Place **Cincinnati 32, Ohio**

When inquiring specify FP6855 — see handy form pages 2-3

POWERS
TEMPERATURE and HUMIDITY
CONTROL

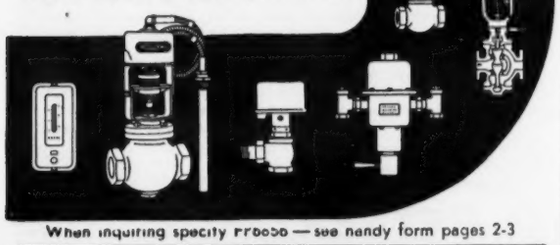
When you want accurate and dependable automatic temperature or humidity control for Industrial Processes or Air Conditioning Systems call in a Powers engineer. With a very complete line of self-operating and compressed air operated controls we are well equipped to fill your requirements.

Write for Circular 2520

THE POWERS REGULATOR CO.
2756 Greenview Avenue, CHICAGO

Offices in 47 Cities—See your phone directory

50 Years of Temperature and ★ Humidity Control ★



When inquiring specify FP6856 — see handy form pages 2-3

Handling Bales with BAKER TRUCK proves more profitable than "Manhandling"

★*Excerpt of letter from The American Thread Company*

★ At our plant car loads of raw cotton are received in bales weighing from 450-750 pounds. Formerly this was all man-handled with hand trucks, and cotton was stored "one bale" high on end, in two sheds at opposite ends of the plant. With the Baker Fork Truck we now stack bales six high, increasing storage capacity of our "active" cotton shed by 1500 bales. Normally these 1500 bales would have gone initially into our concrete warehouse, then rehandled and moved to the "active" cotton shed before going into process. Thus we have saved double handling on 1500 bales.

No matter what type of material you handle in your plant, you can cut intraplant transportation, storage or carloading costs with Baker Trucks. Call your nearest Baker representative or write us direct.

BAKER INDUSTRIAL TRUCK DIVISION
2177 W. 25th St. *of the Baker-Raulang Co.* Cleveland, Ohio
In Canada: Railway & Power Engineering Corporation, Limited

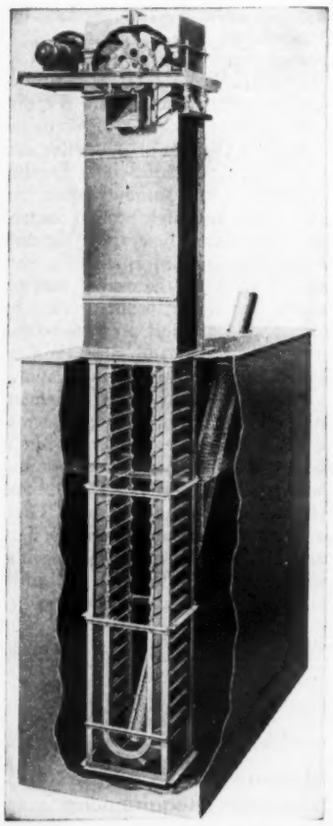
Baker INDUSTRIAL TRUCKS

When inquiring specify FP6857 — see handy form pages 2-3

New Solutions

Bucket Elevator Handles Fragile Parts Gently; Saves Floor Space

Low loading height eliminates pits, inclined feeders, elevates corn, peas, beans, etc.



Single head shaft type bucket elevator used with oil quench tank

Problem — Many delicate, relatively small manufactured parts, or the materials from which they are formed are sometimes not handled to advantage on conventional elevating equipment. Such parts and their components, as well as a variety of products such as beans, peas, corn, etc., require gentle handling in a generally upward direction. Objects falling in these classifications are easily mashed or otherwise damaged because of their thin walls, irregular shape, structural thinness or hollow construction during feeding travel or discharge. There is sometimes a danger of pinching or leakage and the installation of equipment for such operations necessitates mounting elevator in a pit or installing an inclined feeder or other construction.

Solution — A recently developed internally loaded, loop-type bucket elevator is particularly suited to the gentle handling of delicate, small parts. The elevating medium consists of an endless series of overlapping, inwardly opening continuous buckets supported on a wide, power-operated strand of "SS" type steel roller chain which is operated slowly over sprocket wheels at top of lift, and at the foot is guided by curved steel angle tracks. There are no foot sprocket wheels. The buckets are unique in that they are open only in the back, being closed at the bottom, top and front. This permits "internal loading" at foot from a chute extending through the broad side of the steel casing which encloses the elevator. This is in marked contrast with conventional continuous elevator design, in which the buckets are open at the front, — and fed from front end of elevator. The material flows directly into the open macks of the buckets and there is no danger of pinching or leakage.

The elevator can be loaded on both sides, either by chute or conveyor extending directly over the bucket line at foot; and it can be discharged at top to either side, through a rubber-lined chute or directly to a conveyor extending under the bucket line. The loading height of the "interno-

UNIFORM WORKING HEAT—TOP OUTPUT . . .

All Day Long

WHEN YOU INSTALL
Schaub DRAINTROLS
IN YOUR RETURN LINES

● Draintrols eliminate delays in waiting for equipment to heat to operating temperature . . . AIR and CONDENSATE discharge instantly . . . Production gets off to a fast start . . . and stays at peak level till quitting time . . . Net results are faster production and lower labor costs . . . No moving parts — Draintrols replace ordinary traps . . . They are easy to install on existing "open" systems. *Get the facts — write today for full information.*

FRED H. SCHAUB ENGINEERING CO., INC.
2111 So. Marshall Blvd. Chicago 23, Illinois

The Key to Boiler Room Efficiency
SCHAUB SYSTEMS

When inquiring specify FP6858 — see handy form pages 2-3

Skilled Lighting

FOR EXACTING REQUIREMENTS

Wheeler has many fixtures for high-efficiency incandescent lighting in any location.

Typical examples: Wheeler RLM Solid Neck Reflector gives maximum lighting efficiency—dome, angle and other standard types – one-piece construction – 75 to 1500 watts – for indoor or outdoor use.

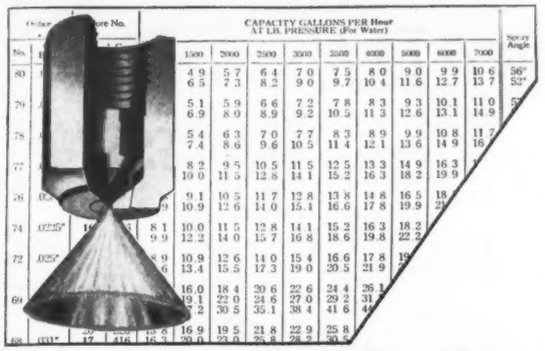
Wheeler Vapolux Fixture for Class II G locations – dust-tight and vapor-proof – standard styles for 100-500 watt lamps – durable and efficient in every detail.

Specify Wheeler for Skilled Lighting always. Write for full details and catalog of complete fixture line – fluorescent and incandescent. Wheeler Reflector Co., 275 Congress St., Boston 10, Mass. Representatives in principal cities.

Distributed Exclusively Through Electrical Wholesalers

Wheeler REFLECTOR COMPANY
Lighting Equipment Specialists Since 1881

When inquiring specify FP6859 — see handy form pages 2-3



Orifice No.	CAPACITY GALLONS PER Hour AT LB. PRESSURE (For Water)									Spray Angle
	1500	2000	2500	3000	3500	4000	5000	6000	7000	
80	4 9 6 5	5 7 7 3	6 4 8 2	7 0 9 0	7 5 9 7	8 0 10 4	9 0 11 6	9 9 12 7	10 6 13 7	56° 52°
79	5 1 6 9	5 9 8 0	6 6 8 9	7 2 9 2	7 8 10 5	8 3 11 3	9 3 12 6	10 1 13 1	11 0 14 9	52°
78	5 4 7 4	6 3 8 6	7 0 9 6	7 7 10 5	8 3 11 4	8 9 12 1	9 9 13 6	10 8 14 9	11 7 16	
77	8 2 10 0	9 5 11 5	10 5 12 8	11 5 14 1	12 5 15 2	13 3 16 3	14 9 18 2	16 3 19 9		
76	.032"	9 1 10 9	10 5 12 6	11 7 14 0	12 8 15.4	13 8 16.6	14 8 17 8	16 5 19.9	18 21	
74	.0225"	8 1 9 9	10.0 12.2	11 5 14 0	12 8 15 7	14 1 16 8	15 2 18 6	16 3 19.8	18 2 22 2	
72	.025"	8 9 10 6	10.9 13.4	12 6 15.5	14 0 17 3	15 4 19 0	16 6 20 5	17 8 21 9	19 23	
69			16.0 19 1 22 2	18 4 22 0 30 5	20 6 24 6 35.1	22 6 27 0 38 4	24 4 29 2 41 6	26 1 31 2 44		
68	.031"	17	416	16 3	16 9 20 0	19 5 23 0	21 8 25 8	22 9 28 2	25 8 30 5	

design and selection

These SPRAY NOZZLES offer both advantages

Write for Catalog no. 22

Spraying Systems Spray Nozzles give you two big advantages (1) outstanding design for effective, uniform spray distribution and long nozzle life and (2) wide range of types and sizes to meet exactly such specifications as spray angle, atomization, and capacity. Let Catalog No. 22 prove these facts.

SPRAYING SYSTEMS CO.

4036 West Lake Street Chicago, 24 Illinois

SPECIALISTS IN SPRAY NOZZLE DESIGN AND MANUFACTURE

When inquiring specify FP6860 — see handy form pages 2-3

PILE TO THE CEILING . . with the HANDIBELT

You can get more loading per square foot of floor space using the Handibelt portable conveyor — save lifting — carrying; users report 8 to 10 man hours saved and volume of items handled more than doubled. Easily wheeled about by one person. Handles boxes, bags or cartons weighing up to 135 pounds. Can be used inclined, declined or horizontal. Belt is free of side rails and reversible in movement. Operates from any ordinary lighting circuit. Available in two models: No. 11 piles up to 7 ft. 6 inches; No. 16 piles up to 10 ft. 6 inches.

Get complete information — write for Handibelt Bulletin No. FO-106

STANDARD CONVEYOR COMPANY

General Offices: North St. Paul 9, Minn.

Sales & Service in all principal cities

STANDARD CONVEYORS

When inquiring specify FP6861 — see handy form pages 2-3

bucket" elevator is so low that the elevator may rest directly on the floor and receive from conveyors which are one foot or less above the floor. This eliminates the expense of pit construction and its consequent maintenance or the need of inclined feeders or other complicated construction that occupies floor space. The elevator can be furnished with either one or two head shafts — the double head shaft design being used on aplication requiring increased elevator speed to gain higher handling capacity. Adjustment of the bucket line is provided by spring-type take-ups installed at head of single. Bucket line adjustment of double head shaft elevators is made at foot.

The perspective wash drawing of the Interno bucket elevator with single head shaft, depicts an actual installation for lifting metallic pieces out of an oil quenching tank, after heat treatment. The elevator buckets are perforated to permit oil to drain back into tank. As the Interno bucket elevator lifts the parts out of the tank vertically, considerable factory floor space is saved over that reqiured when a horizontal and inclined quench tank conveyor is used. A four page illustrated folder (Number 1983) is available on request.

LINK-BELT CO., Dept. FP, 307 North Michigan Ave., Chicago 1, Ill.

When inquiring specify FP6862 — see handy form pages 2-3

★

Compact 47 HP Hydraulic Motor For Direct Drive in Small Space

Combines high starting torque with turbine-smooth power; extends use of this safer power in hazardous areas

Problem — Among difficult power application problems is that encountered in plants where operations involve explosives, magnesium fabrication and high dust content.

Solution — A solution is offered in the Superdraulic motor. Production of this new type of industrial hydraulic motor is now under way. The motor combines high starting torque with turbine smooth power. In combination with previously developed high pressure hydraulic pumps a complete power transmission system is provided. Hydraulic pressure generated by pumps outside the hazardous area is readily transferred by means of tubing to the hydraulic motors mounted as direct drive units. Ample power for most machine applications is provided in exceptionally compact units. The 47 HP motor is only 10½ inches in diameter and light enough to be handled by one man. Torque range is as high as 200 lbs. ft. The motor is available in two types, one rated at 26½ gpm with 3,500 psi, input at 1,200 rpm; the other at 19 gpm with 5,000 psi at 1,200 rpm.

The motor offers the advantages of infinitely variable speed control, forward and reverse, by means of a convenient finger volume control valve; starting without clutches; perfect control of acceleration and deceleration. Turbine-like smoothness is provided by 66 power strokes per revolution.

Results — Some machines which have had to forego direct drive type of power application because either electric motors or hydraulic motors necessary to meet power requirements were too large to be built into the machines.

In case of Hyper-Milling for example, a serious problem has been to provide sufficient driving power for the spindles. The compact hydraulic motor provides a solution.

SUPERDRAULIC CORP., Dept. FP, Dearborn, Mich.

When inquiring specify FP6863 — see handy form pages 2-3

There are More "Packaged" Cleaver-Brooks Steam Generators Serving a Wider Range of Steam Needs than any other make . . .

EXPERIENCE of Cleaver-Brooks in the installation of steam generators extends into widely different fields and uses. From aircraft plants to dairies, bottling plants, laundries, manufacturing, food and processing plants, Cleaver-Brooks has met varying steam needs at low cost and with exceptional efficiency of equipment.

Whatever your business — whatever your operation — you benefit from Cleaver-Brooks experience. Your steam generating equipment is planned to meet not only present loads, but to provide for future expansion as well.

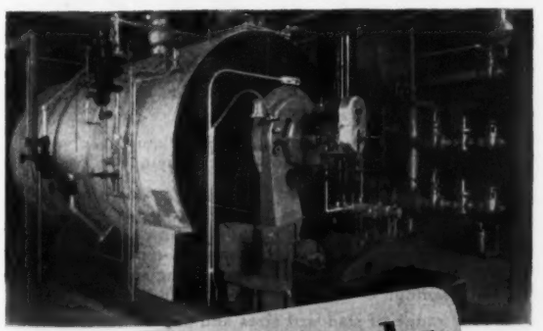
Check your operating budget . . . do your steam generating costs seem excessive? Cleaver-Brooks will be glad to work with you to see if they can be substantially and profitably lowered.

CLEAVER-BROOKS COMPANY

344 E. Keefe Avenue Milwaukee 12, Wisconsin

WRITE on your business letterhead

for the Free Steam Cost-Calculator—a ready-reference slide rule showing the comparative steam costs when using oil or coal as fuel.



When inquiring specify FP6864 — see handy form pages 2-3

for • SPRAYING
• WASHING
• RINSING
• COOLING
• AIR CONDITIONING

YARWAY

SPRAY NOZZLES

Get the most out of your Spraying Equipment with minimum power . . . with efficient spraying.

Use Yarway Nozzles. No internal vanes or other restrictions to clog or hinder flow. Two types—Yarway Involute-type producing a fine hollow spray with minimum energy loss, and Yarway Fan-type producing a flat fan-shaped spray with time-saving slicing action for cleaning.

Wide range of standard sizes and capacities. Cast or machined from solid bar stock.

Thousands in use. Write for new Bulletin N-616.

YARNALL-WARING COMPANY
126 Mermaid Avenue Philadelphia 18, Pa.

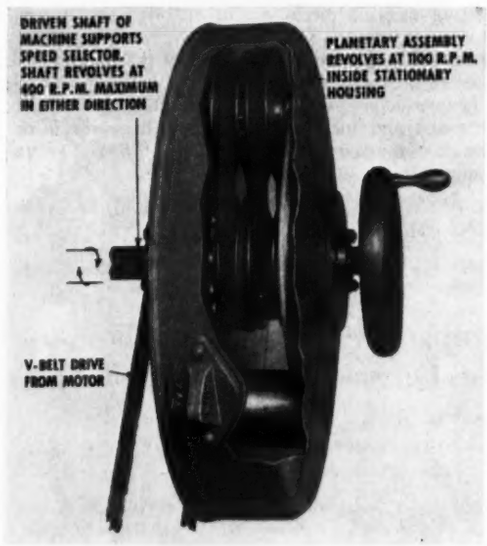
When inquiring specify FP6865 — see handy form pages 2-3

New Solutions

Belt Control Provides Infinite Ratio, Stepless Speed 400 RPM-O

All changes made by hand wheel; constant torque of two hp capacity; frame is aluminum; sheaves cast iron

Problem — More efficient operation and increased production by means of precise speed control is desired in many applications of agitators, bottling machines, brew kettles, calenders, conveyors, cookers, grinders, hoists, lathes, stitchers and processing machinery. Particularly desirable is infinite ratio, stepless speed from full down through zero and into full reverse at constant torque.


DRIVEN SHAFT OF MACHINE SUPPORTS SPEED SELECTOR. SHAFT REVOLVES AT 400 R.P.M. MAXIMUM IN EITHER DIRECTION
PLANETARY ASSEMBLY REVOLVES AT 1100 R.P.M. INSIDE STATIONARY HOUSING
V-BELT DRIVE FROM MOTOR

Hand wheel of control regulates diameter of four pulleys

Solution — Especially designed to meet such requirements in a recently announced new development of planetary motion in which two standard cross-section V-belts and four variable pitch pulleys provide complete and precise control. A slight change in the variable pitch pulleys of the "Speed Selector" brings a large change in output speed through the multiplying action of the planetary mounted on the motor or driven shaft of the machine on which it is used, eliminating need for special mounting brackets, or extra guards.

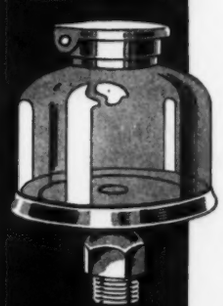
In operation this "Variable-V-Planetary Speed Selector" system compares the ratios of two V-Belt drives and applies the difference in speed to output shafts. With the ratios equal, the difference in speed and output shaft speed is zero. If the ratio of one drive is greater than the other the output shaft operates in reverse in the same proportionate ratios. Speeds from 400 rpm to zero, forward and reverse are obtained. All changes are made by a hand control wheel, which alters the pitch of the diameter center pulleys so that as one is increased, the other is decreased and the change imparted to the outer pulleys by the wedging action of the V-belts. It is mounted on the input shaft of the driven machine by a tapered collet. The wheel thus controls diameter of all four pulleys without use of springs or complex linkage. Frame construction of the "Variable-V-Planetary" is of lightweight aluminum with cast iron sheaves for long wear. Prefabricated plastic

WATER
FOR FOOD PROCESSING
STERILIZED
BY
BREAK-POINT
CHLORINATION

INDUSTRIAL DIVISION
WALLACE & TIERNAN
NEWARK NEW JERSEY

When inquiring specify FP6866 — see handy form pages 2-3

NO BROKEN GLASS
with
GITS
CLEAR-VISION
UNBREAKABLE
OILERS



Food, chemical and similar applications where the use of glass is extremely dangerous and in many cases prohibited—Gits Unbreakable Oilers fully answer the need for efficient, dependable lubrication with the desired advantages of a generous supply of oil and clear vision of that oil supply at all times. Gits Unbreakable Oilers are ruggedly fabricated from steel bar stock and equipped with shatter-proof, transparent bodies equal to maximum abuse. These oilers are furnished with an elbow for horizontal mounting when specified.

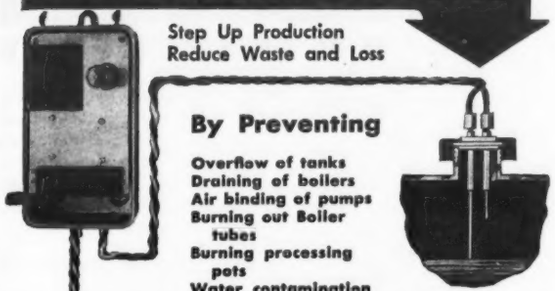
If you do not have a Gits Catalog No. 60, illustrating entire line of lubricating devices—write for it.

GITS BROS. MFG. CO.
1843 South Kilbourn Avenue • Chicago 23, Illinois
Exclusive for over 35 years

When inquiring specify FP6867 — see handy form pages 2-3

these ELECTRONIC stainless steel FINGERS

Step Up Production
Reduce Waste and Loss



By Preventing

Overflow of tanks
Draining of boilers
Air binding of pumps
Burning out Boiler tubes
Burning processing pots
Water contamination

Faratron Liquid Electronic Level Controls

Just two polished stainless steel rods — that's all — in the vat, tank, boiler, processing kettle, freezer, pasteurizer, etc., to control signals or operate pumps or valves: they are constantly on duty — need no servicing — and are easy to install.

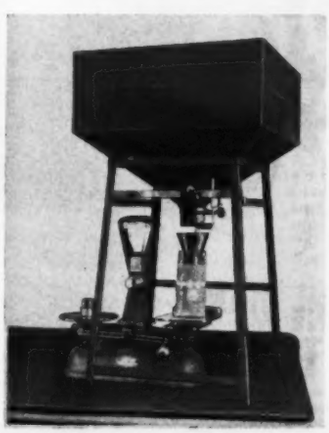
If you have any liquids — hot or cold — in any type of container — to control, you should have our Bulletin 457. Write for it today.

TO PUMP MOTORS — High of Low SIGNAL BELLS or LIGHTS — Motorized VALVES — Etc.

Lumenite Electronic Company
ENGINEERS DESIGNERS MANUFACTURERS
407 S. Dearborn Street Chicago 5, Ill

When inquiring specify FP6868 — see handy form pages 2-3

"PAXALL" Fills, Weighs and Checks A Food Package . . .



The EXACT WEIGHT PAXALL is recommended for specialty food products where volume does not warrant sizeable equipment investment. PAXALL is excellent for filling small special orders . . . is and has been used for emergency packaging equipment. Its modest cost makes it ideal for small operations. The equipment consists of a hopper 23"x23"—capacity to 150 lbs., flow-valve and EXACT WEIGHT Scale which will handle any package from 3 oz. to 10 lbs. The unit is portable, fast, trouble-free in operation and a remarkable labor saver.

Write for the new 1946 Food Packaging Catalog. It's free for the asking.

INDUSTRIAL PRECISION
Exact Weight Scales

THE EXACT WEIGHT SCALE COMPANY
32 W. FIFTH AVE., COLUMBUS 8, OHIO
Dept. R, 783 Yonge St., Toronto, Canada

When inquiring specify FP6869 — see handy form pages 2-3

New Solutions

seal, ball type bearings eliminate dirt and lubrication problems. Shafts and other wearing parts are hardened and ground to provide precision fits and long life. Natural ventilation is created by the revolving assembly inside the aluminum housing. The complete speed range is covered by four and one-half turns of the control wheel. Remote controls are available. (The selector was designed by Speed Selector, Inc., Cleveland and is now added to transmission products of the B. F. Goodrich Co.).

B. F. GOODRICH CO., Dept. FP, Akron, Ohio.

When inquiring specify FP6870 — see handy form pages 2-3

★

Prefabricated Conduit Simplifies Central Heating Installations

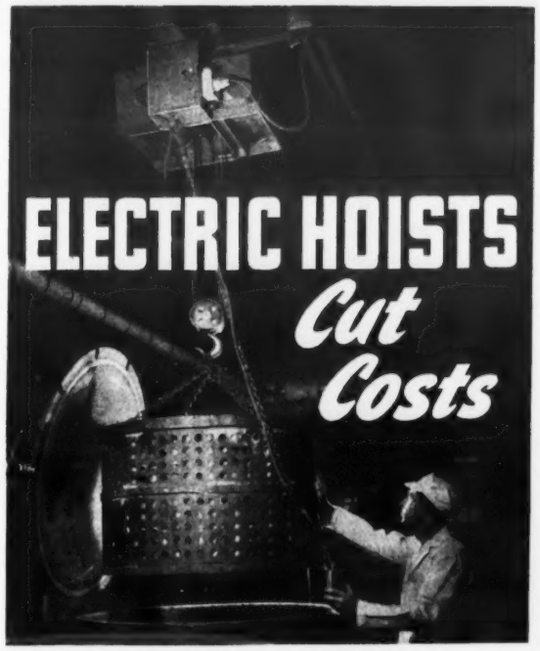
Aid in bringing advantages of better combustion and smoke elimination

Problem — Soot fall during heating season in highly industrialized areas runs as high as 2000 tons per square mile per month. Cleaner, more efficient heating both for health and operating economy is a necessity.

Solution — Centralized heating systems, although in increasing use throughout recent years, continue to offer the solution to such problems in connection with established industrial plants and those which are to be constructed. There are a number of sources from which steam for central heating of industrial communities may be obtained. These are (1) The electric utility may have a central power plant nearby with sufficient by-product steam capacity. (2) One of the plants may have enough boiler capacity to sell steam to the others. (3) There may be an existing available steam source nearby — often with sufficient exhaust steam to supply most of the community's needs. (4) It may be practical to build and operate a central steam plant on a cooperative basis. (5) An industrial concern with several buildings may operate its own central boiler plant. A practical example of how an industrial organization may build and operate its own plant, extending and remodeling it as growth and changed requirements dictate is found in the case of a major rubber company. The most recent of a number of extensions that have been made during intervening years is that of providing high pressure steam for a new research laboratory. An 8 inch line 2100 feet long, was extended from one of the other plants. Since the laboratory is located on a hill, it was not feasible to pitch the line in the direction of flow. A steam separator was installed where the line leaves the other plant and another where it enters the laboratory building. The line is large enough so that the velocity of steam is low. Prefabricated sections tailored specifically for this installation were delivered to the job in convenient 21 foot sections, complete with couplers and accessories, minimizing field work. The units are presealed and protected against worst water conditions. In installations like this, any length of pipe can be turned to save time — permitting all welding to be done on top. Prefabricated Z bends laid in trenches prior to coupling serves as expansion loop. Pipe is welded near anchor plate which serves as base for future service connections. In completed installation, manhole cover provides access to service connections. An eight inch cast iron well water line, 2300 v., conduit and telephone conduit were run underground in the same trench with the steam service.

RIC-WIL CO., Dept. FP, Union Commerce Bldg., Cleveland, Ohio.

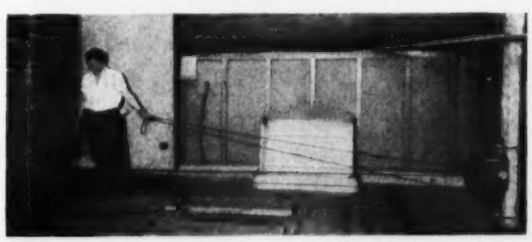
When inquiring specify FP6871 — see handy form pages 2-3



These two applications perhaps can illustrate how completely R & M electric hoists serve the food industry. No matter what the need, if a hoist or crane can increase efficiency or cut costs, R & M builds equipment *ideal* for that job.

HIGH SPEED... HIGH EFFICIENCY

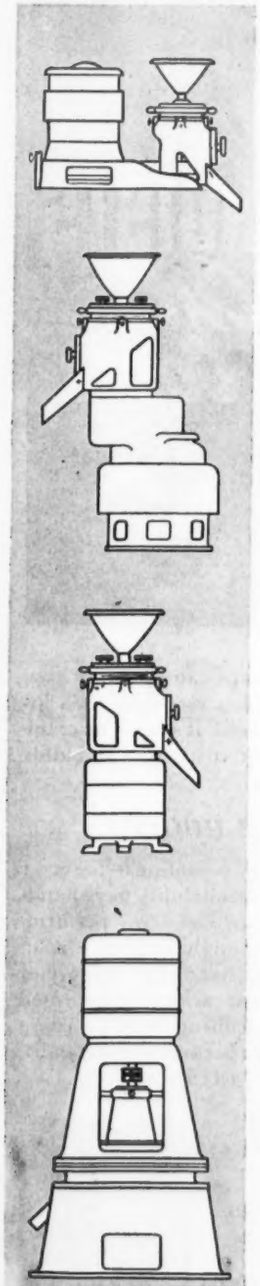
On fixed installations or trolley mountings—for *every* location and load—R & M dependability pays handsome dividends in time-saving *high-speed* performance. Floor-to-floor lifting and lowering. Group movement and other process handling. Rope pull for such purposes as removing racks of dehydrated product from heating compartments, below. These and many other tedious tasks become simple, quick —and *profitable*—with R & M electric hoists.



Get This Free Book. Send for 24-page Bulletin 830, "Hoists for the Food Industry." It's *packed with ideas* that will help you lower costs.

ROBBINS & MYERS • INC.
HOIST & CRANE DIVISION • SPRINGFIELD, OHIO
In Canada: Robbins & Myers Co. of Canada, Ltd., Brantford, Ont.
MOTORS • MACHINE DRIVES • FANS • MOYNO PUMPS • FOUNDED 1878

When inquiring specify FP6872 — see handy form pages 2-3



PREMIER

COLLOID MILLS

- ***Dispersing*** solids in liquids or liquids in liquids, Premier insures more finely divided colloidal suspensions and promotes immediate chemical reaction.
- ***Disintegrating*** solid particles or the fibre and cellulose in animal or vegetable tissue — instantly exposing these particles to the wetting or extractive action of the suspending liquid.
- ***Emulsifying*** — achieving non-separating emulsions of all viscosities.
- ***Homogenizing*** assuring superior homogenized products by compelling uniform distribution of the dispersed phase throughout the mix.

CLIP COUPON FOR INFORMATION ON YOUR PROBLEM

PREMIER MILL CORPORATION
4218 GENESEE STREET, GENEVA, N. Y.

SEND DESCRIPTIVE CATALOG

NAME_____ TITLE_____

COMPANY_____

ADDRESS_____

When inquiring specify FP6873 — see handy form pages 2-3

New Solutions

Revised Standards Reduce Pipe Covering Sizes

Achieved by variation of outside diameter

Problem — Most wall thicknesses of pipe coverings have been based on old precedents and practices. There has been an unrelated multiplicity of sizes, complicating and slowing down production and increasing inventory requirements.

Solution — By slightly varying the outside diameter, every size and thickness will exactly fit over or into another standard size thickness. In most cases the variations are plus, but the minus cases are compensated for in the case of the coverings discussed here by the high insulating value of the light density type (11 lbs. per cu. ft.) precision molded 85% magnesia. (Plus and minus variations are within the range approved by the U. S. Navy — ref. Bureau of Ships, specification 32P8b). In explaining this system of simplified thickness standards the following definitions are given. Prime sizes — single layer construction. Assemblies — all other thicknesses, assembled from prime sizes. Nominal thicknesses — Terms commonly used to group actual thicknesses, under nearest regular thickness headings. For example, take 2" pipe size nominal. 1" thick is really 1 1/16" thick and nominal 3" thick is really 3⅛" thick, etc.

Assembled sizes and thicknesses are furnished from the factory either cemented together — solid construction — or uncemented — broken joint construction. Each fit is tight and accurate. It requires only 68 prime sizes to supply 141 or more practical sizes and wall-thicknesses. These include copper tubing sizes from ⅜" to 3" inclusive; also iron pipe sizes from ¼" to 18" inclusive; and in wall thicknesses from nominal 1" thick to nominal 4" thick or thicker.

Results — Nearly 50% reduction in number of prime sizes required to cover the many different dimensions and wall thicknesses. Provide unusual ease of installation. Cut costly inventories.

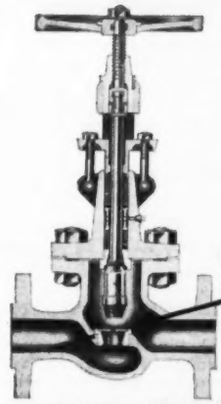
This manufacturer has issued a bulletin containing a comprehensive chart on precision molded 85% magnesia pipe covering and high temperature pipe covering prime sizes and thicknesses; usual factory standard assemblies, sizes and thicknesses; also actual wall thicknesses of nominal thicknesses.

PLANT RUBBER & ASBESTOS WORKS, Dept. FP, 537 Brennan St., San Francisco, Calif.

When inquiring specify FP6874 — see handy form pages 2-3

IMPROVE WITH USE!

LUDLOW SUPERFLOW



MULTI-VALVES require no regrinding! Scientifically-designed Superflow plug and seat afford multi-contact, metal-on-metal seating that actually *improves with use!* With LUDLOW Superflow Multi-Valves you obtain

STRAIGHT LINE THROTTLING

COMPLETE SHUT-OFF

MINIMUM HEAD LOSS

Do you have a difficult shut-off or throttling problem on your lines? Install a LUDLOW Superflow Multi-Valve—and forget it! Write for illustrated bulletin.

SM-28

The LUDLOW VALVE (SINCE 1866)
MFG·CO·INC·TROY·N·Y·

When inquiring specify FP6875 — see handy form pages 2-3

handles barrels easy

One man handles loaded barrels without rocking, straining or lifting with a

THOMAS ONE MAN BARREL TRUCK

A faster, safer, easier way to handle barrels. Automatic load and unload. Simply contact steel prongs of truck against bottom of barrels, engage sliding truck hook in rim. Pull handles slightly, push with foot. Barrel slides onto truck in perfect balance. 1000 lb. cap. Hyatt bearings. Rubber tired wheels. Low priced. Return in 30 days if not fully satisfied.

THOMAS TRUCK of Keokuk

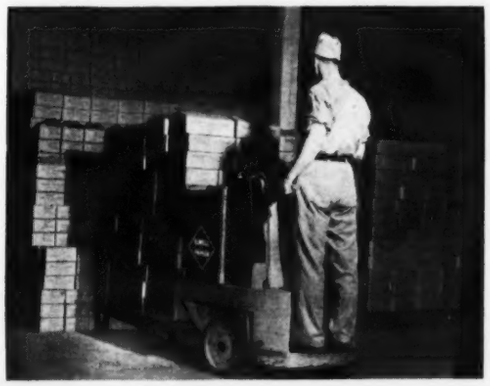
Manufacturers of over 1000 different types of truck casters, wheels. Write for catalog. THOMAS TRUCK & CASTER CO., 6751 Mississippi River, Keokuk, Iowa.

When inquiring specify FP6876 — see handy form pages 2-3

Electric Trucks Speed Movement Of Skid Loads in Food Plants

Perform handling operations throughout plant from receipt of raw materials to loading finished products for shipment

Problem — Studies reveal that a unit of material is picked up and moved 20 to 150 times from its arrival at the plant to its shipment after being processed into the finished product. As such handling comprises the largest single item of labor cost potential savings are very large and can be realized if handling operations are properly analyzed



Unit loads of cheese spread moved on skids

and equipment carefully selected. The various factors that must be considered in selecting and operating lift trucks are illustrated in the case of plant processing cheese, salad dressing, mustard and candy. Cleanliness is essential in plant producing products for human consumption and a factor in selecting all handling equipment.

Solution — In the particular plants referred to (Kraft Cheese Co., Chicago, and Freeport, Ill.) electric powered, low lift platform trucks are used. They lift and transport master-loads up to 2 tons and easily negotiate ramps and inclined deckplates between shipping platforms, freight cars or road trucks. When the operator steps off the truck its power is shut-off. In the Chicago Kraft plant, producing salad dressing, margarine, mustard and candy, electric trucks are used in transporting loads of materials on skid type platforms from freight cars and road trucks to storage, to processing departments. Further handling includes moving packaged products to refrigerator rooms and storage and thence to cars and trucks for outgoing shipment. In the Freeport plant, Cheddar cheese weighing about 75 pounds are processed with other food products to make a specialty spread. Electric trucks handle loads on skids in all processing and packaging departments.

Results — Savings in handling charges by rapid movement of materials in the most practical unit loads. Compact trucks easily maneuvered in restricted space and space for production and storage used to best advantage. Finger-tip control and automatic power shut-off when operator steps off platform contribute to convenience and safety. (Detailed information on Electric industrial trucks and their application in specific handling operations on request.)

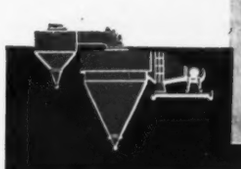
ELWELL-PARKER ELECTRIC CO., Dept. FP, 4219 St. Clair Ave., Cleveland 14, Ohio.

When inquiring specify FP6877 — see handy form pages 2-3

He represents the fast growing market for prepared infant foods . . . a market that spends millions of dollars each year. Instead of cooking Junior's special vegetables and squeezing them through a sieve, modern mothers buy them ready-cooked and macerated.

Swenson Gray-Jensen Spray Dryers offer a new approach to this market—in the form of dried vegetable powders that require merely the addition of water. Spinach, green beans, wax beans, peas, carrots, and asparagus can be cooked and macerated, and then spray dried, provided the resultant slurry can be pumped. Squash, turnips, and rutabaga may be similarly handled in combination with milk.

Savings in packaging and container costs . . . and in shipping, storage, and handling . . . offer substantial savings to the average family which is spending nearly $30 a year for prepared infant foods. Swenson engineers will gladly cooperate with food manufacturers interested in entering this fertile field.

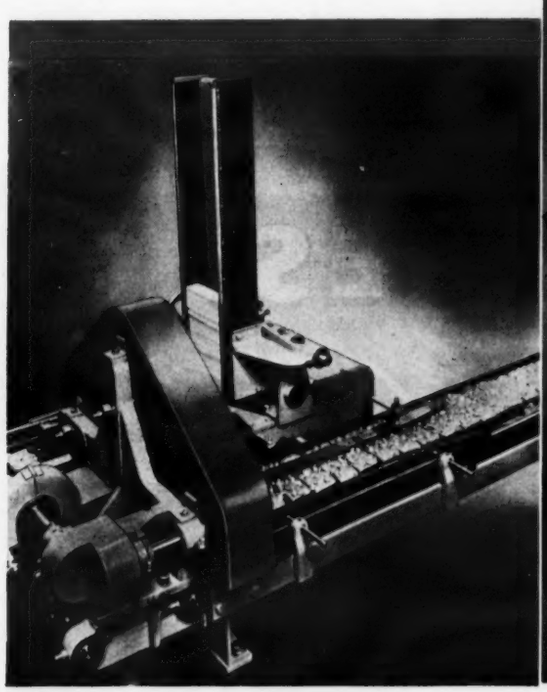


SWENSON EVAPORATOR CO.
DIVISION OF WHITING CORPORATION
SPRAY DRYER DEPARTMENT, 221-F N. La Salle St., Chicago 1, Ill.

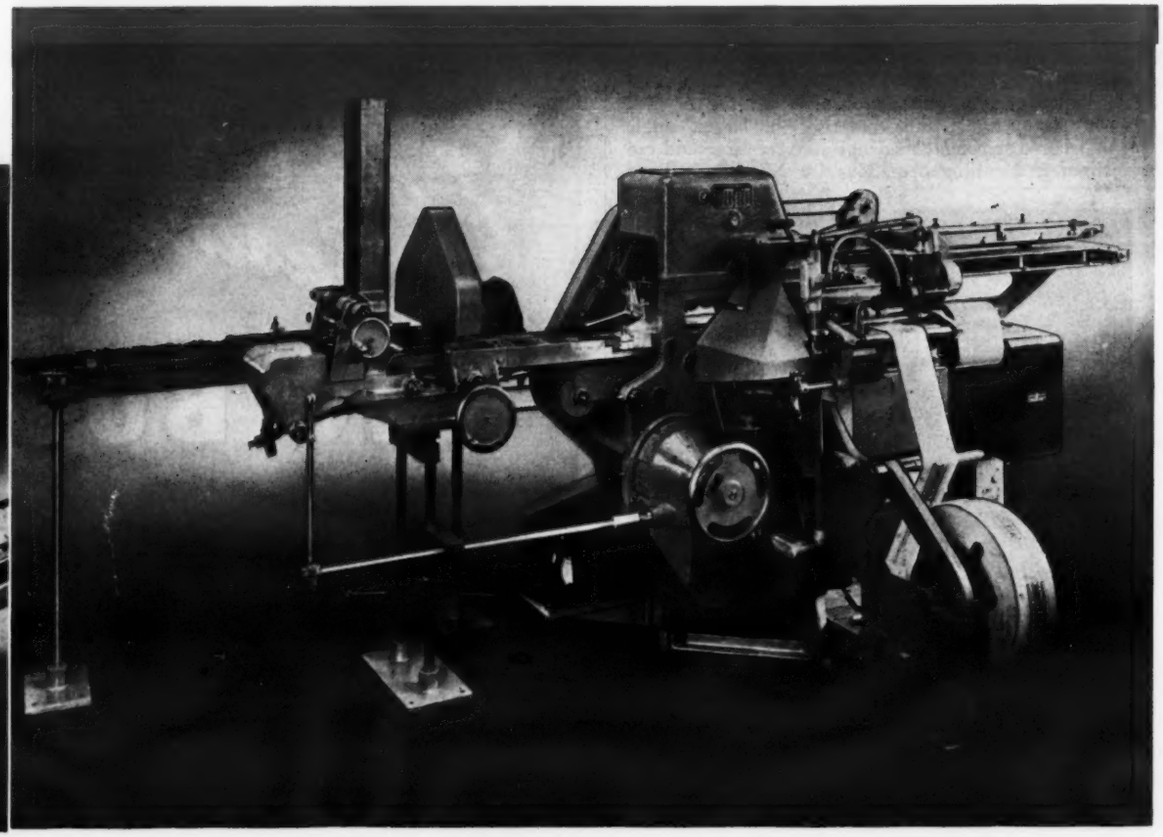
When inquiring specify FP6878 . . . see information request blank, pgs. 2-3

140 Candy Bars Wrapped Per Minute Machine Has Automatic Feed

Packaging



Close-up of automatic feed



Bar wrapper with automatic feed

Capacity 90 bars per minute on disc-shaped items

USES — Provides neat, box like wraps for irregular candy bars and is built to handle peppermint patties, sandwich crackers, or other disc-shaped items.

Features — Operator merely guides the bars from the enrober belt to the belt of the automatic feed. The machine takes over from there. Transport fingers on the cross conveyor chain of the automatic feed provides gentle transfer for the bars to the wrapping machine conveyor. The feed cannot mar the appearance or coating of the bar. Top speed is 140 bars per minute with only one operator in attendance.

Description — This model uses printed wrapping material in economical roll form. It registers all printed designs with accuracy. An inner liner can also be supplied if desired. Pockets are provided for the reception of the wrapped bars. Detailed information may be furnished.

PACKAGE MACHINERY COMPANY, Dept. FP, Springfield 7, Mass.

When inquiring specify FP6879 — see handy form pages 2-3

Improved Vibratory Feed Weighers Provide 25% to 50% Faster Packaging

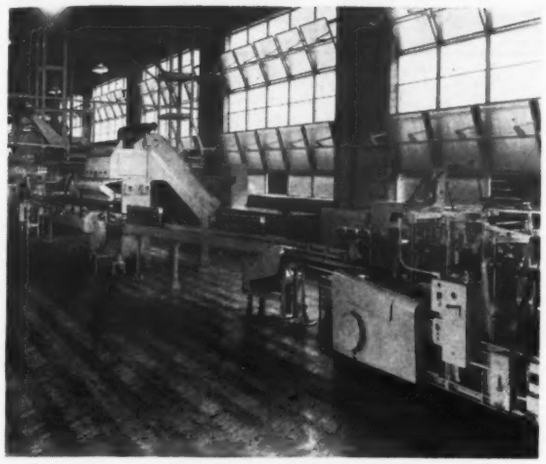
Weight accuracy from exact to a small fraction of an ounce plus or minus

Uses — Typical products packaged on this equipment include: beans, peas, rice, crackers, cookies, candies, coffee, marshmallows, potato chips, cut macaroni products, grocery staples, pretzels, cranberries, etc.

Features — Adjustments for various weights are readily made on a scale mechanism and a precision adjustment control is provided for making minor weight variations while the machine is in operation. Weighers are designed to deliver weights from exact to a small fraction of an ounce plus or minus. An automatic light signal system, known as Visual Weighing, indicates the sequence of weighing operations and serves as a warning in the event of irregularities that might influence weighing accuracies.

Description — Weighing and discharging of materials is automatic. When filling paper or cellophane bags, an operator is required to place each bag on the filling spout, after which no further attention is required. After the bag is filled it is automatically released onto a conveyor and carried to the closing machine. In the case of rigid containers, fully automatic operation can be obtained. Cartons, cans, or jars are carried by conveyor to the weighing machine where they are filled, after which they are conveyed to closing machines.

Operation — Material to be packaged is discharged by electrically vibrated feed plates into a power-rotated weighing receptacle which discharges into the container as soon



Production ranges from 15 or 20 packages per minute to as high as 120, depending upon the style of machine and the product being packaged

as the load reaches correct weight. Speed of the feeding trays is regulated by dials on top of the machine. These are set within limits to prevent the operator from speeding up the machine at the expense of accuracy. Some models will weigh from as little as ¾ oz. up to 8 oz. Others range from 1 oz. to 1 lb. and 4 oz. to 5 lbs. A screening device takes out crumbs and fine particles so that they do not get into the package. The mechanisms are completely enclosed in cabinets for cleanliness and protection of working parts. Literature describing this equipment can be secured from the manufacturer.

TRIANGLE PACKAGE MACHINERY COMPANY, Dept. FP, 906 N. Spaulding Ave., Chicago, Ill.

When inquiring specify FP6880 — see handy form pages 2-3

★

Revamped Vacuum Coffee Jar Builds Firm Displays, Saves 8% Space

Cap is easily pried off with tablespoon, resealed airtight by hand pressure

Uses — Ultra-Vac coffee jar is designed to build better, firmer displays, increase sales, save stockroom and shelf space, preserve flavor and aroma.

Features — Flexible metal cap is easily pried off with a tablespoon, can be resealed airtight by hand pressure. Construction of jar saves about 8% stockroom and shelf space. Light weight, strong, durable. Stacks well in displays, storage or shelf space. Commercially tamper-proof: customers are not likely to open jars on store shelves and destroy high vacuum seal. Reseal feature preserves flavor and aroma of coffee in the home. Wide shoulders aid customer to identify grind, keep contents always in sight, thus facilitating reordering by customer. Costs no more than other vacuum containers.

Description — A product of joint research by coffee roasters and Owens-Illinois Glass Company, overall jar is about an inch shorter than standard screw-cap containers, has lower neck, broader shoulders. Mouth is ¼" wider in diameter. Processed by special 10-head, high-speed vacuumizing machine.

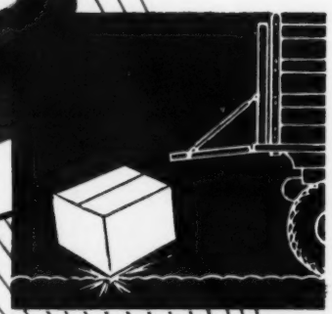
OWENS-ILLINOIS GLASS COMPANY, Dept. FP, Toledo, O.

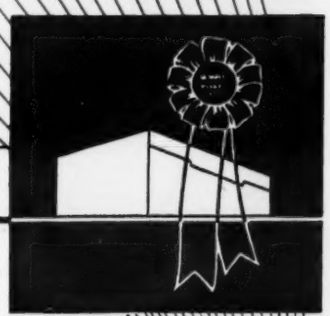
When inquiring specify FP6881 — see handy form pages 2-3

Gaylord Boxes

Engineered for PROTECTION

Designed for DISTINCTION



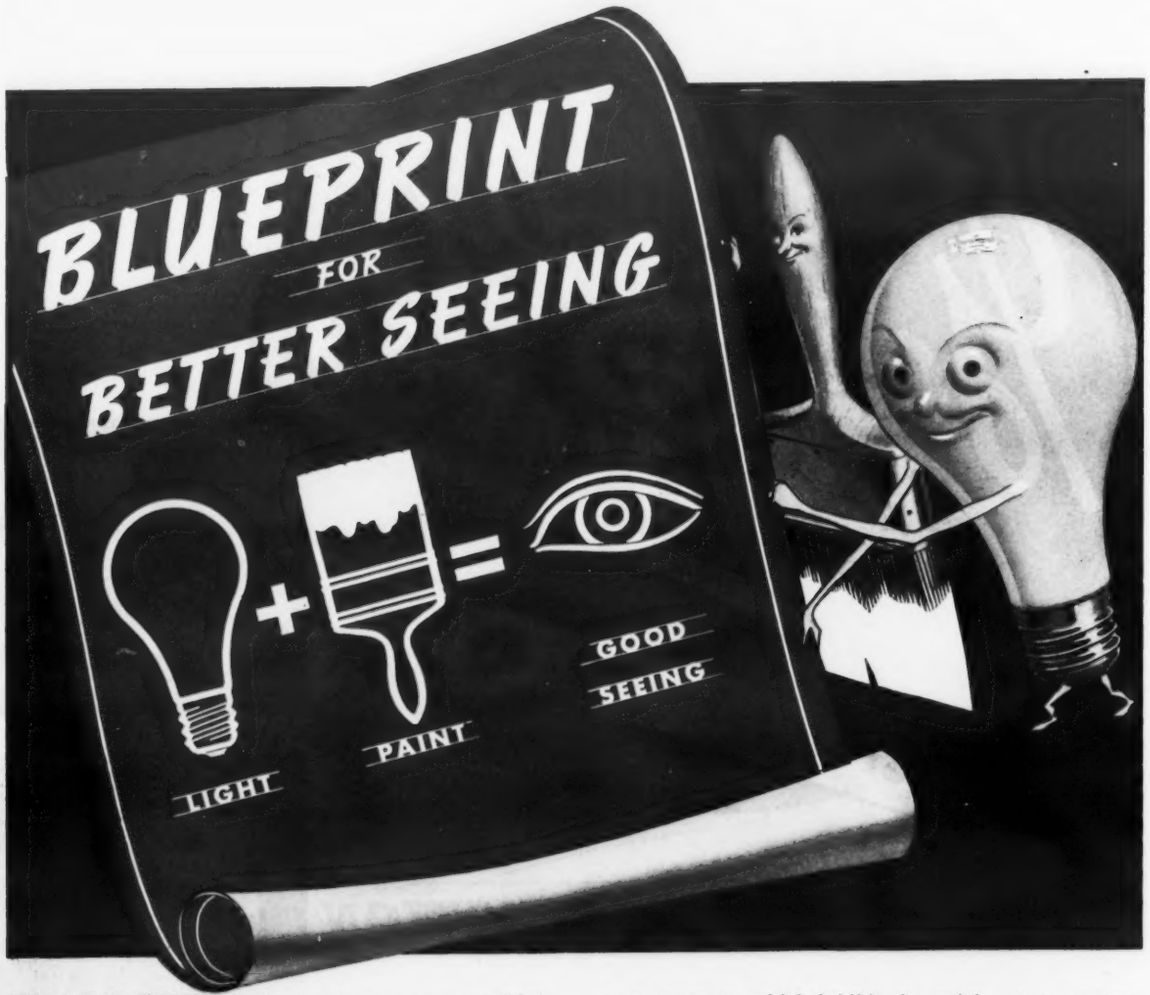


CORRUGATED AND SOLID FIBRE BOXES — FOLDING CARTONS
KRAFT GROCERY BAGS AND SACKS — KRAFT PAPER AND SPECIALTIES

GAYLORD CONTAINER CORPORATION GENERAL OFFICES ST. LOUIS

New York • Chicago • San Francisco • Atlanta
New Orleans • Jersey City • Seattle • Houston
Indianapolis • Los Angeles • Oakland • Dallas
Minneapolis • Jacksonville • Columbus • Fort Worth • Tampa • Detroit • Cincinnati • Des Moines • Oklahoma City • Greenville • Portland
St. Louis • San Antonio • Memphis • Kansas City • Bogalusa • Milwaukee • Chattanooga
Weslaco • New Haven • Appleton • Hickory
Greensboro • Sumter

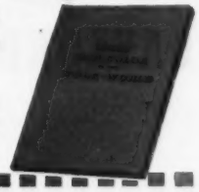
When inquiring specify FP6882 . . . see information request blank, pgs. 2-3



THIS LITTLE EQUATION is the simplest way we can think of to illustrate a basic fact: namely, that Light and Paint are **PARTNERS** in creating the good seeing conditions so necessary to plant efficiency and the health and well-being of plant workers.

On plant ceilings and walls **WHITE** paint helps fixtures deliver more light *because it reflects more light than paint of any other color.* What's more, it helps achieve better *distribution* of both light and brightness, thus softening the harsh shadows and extreme brightness contrasts which inhibit the quick, easy, accurate seeing so vital to modern high-speed production.

On upper walls it reflects needed light toward upright machine surfaces, and on ceilings it aids in reducing glare from too-great brightness contrasts between the fixtures and their background.



For full information on how Paint can help make good lighting *better,* send today for free copy of "Light and Color in the Work-World."

BARRELED SUNLIGHT

U. S. GUTTA PERCHA PAINT COMPANY
4-J Dudley Street, Providence 1, Rhode Island

I'd like to know more about the partnership of Light and White Paint. Please send me a free copy of "Light and Color in the Work-World."

COMPANY.....

STREET AND NUMBER.....

CITY..... ZONE..... STATE.....

MY NAME IS.....

MY TITLE.....

© 1946 U. S. Gutta Percha Paint Company

When inquiring specify FP6883 . . . see information request blank, pgs. 2-3

Packaging

Non-Blocking Varnish Protects Warm Cartons from Sticking

Succeeds where slip sheets fail; permits wrapping and packing while hot

Non-blocking-varnish-protected cartons

Uses — Packaged process cheeses, wrapped and packed while hot, tend to block or stick together. To rectify this packing fault, Milprint, Inc., has developed a non-blocking varnish for Shefford Cheese Division of Standard Brands. *Features* — Protects printing and overwraps from unsightly spotting and tearing. Eliminates need for slip sheets between cartons, and the expense and time involved in such procedure (slip sheets reduced, but did not correct this fault). Packs while hot without blocking. Stimulates sales.

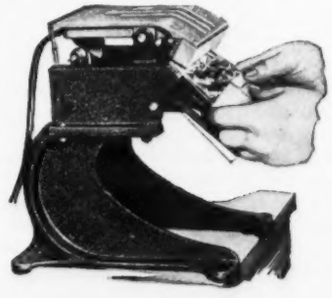
MILPRINT, INC., Dept. FP, Florida, 5th and Virginia Sts., Milwaukee 1, Wis.

When inquiring specify FP6884 — see handy form pages 2-3

*

Heat Sealing Unit for Maralux Cellophane and Diaphane

No clamps, bolts or screws are necessary for installation of this sturdy unit



Heat Sealer is portable

Uses — Used for crimp sealing bags and wrappings in industries where moistureproofing and air tightness is required as in deep freeze packaging. *Features* — Unit is made of the finest grade aluminum and accurately manufactured for service and long life. Base is sturdy and can be placed in any stand, counter or bench. There are no clamps, bolts or screws necessary. When not in use, the unit may be stored in a very small space. *Description* — Sealing jaws are ¾" x 5⅝" with precision formed horizontal serrations to insure positive crimp sealing. Heating element has 120 watts capacity and operates on 110 volts A.C. or D.C. current. It is furnished com-

plete with electric cord and plug. Size is 9" wide, 10½" long, and 11½" high. Shipping weight is 6 pounds. Information on this and a larger set is available to interested parties.

CLEVELAND LATHE & MACHINE COMPANY, Dept. FP, 5511 Euclid Ave., Cleveland 3, Ohio.

When inquiring specify FP6885 — see handy form pages 2-3

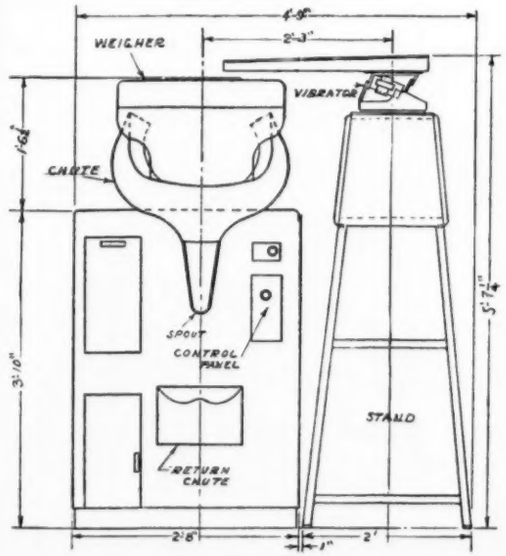
★

Automatic Weigher for Potato Chips and Similar Foods Has High Speed Accuracy

One-sixteenth of an ounce tolerance held in 60 day run of a production unit

Uses — Weighs and discharges potato chips and like products at predetermined net weights of from three-quarters ounce to two ounces.

Features — Users report they are averaging 20 to 30 bags per minute on three-quarter ounce packages. There is no chance for the chips to bridge over, pile up and break. Uniform weight with a high degree of accuracy is achieved. Only one operator is required to run the machine and to place the bags on the spout of the chute to receive the chips. Machine is small and compact and has been designed with a minimum number of parts. Any of the conventional flexible bags may be used.



Speed of machine limited only by the rate at which bags are placed on the spout

Description — Method of weighing is based on the principles of hydro-electric positive displacement. Weights are determined in advance by adjusting controls on the machine. Potato chips should be fed to the weigher in a continuous stream. Two buckets are mounted in the machine. While one bucket is receiving chips and resting on the weighing device, the other bucket is discharging its chips into a chute.

WRIGHT'S AUTOMATIC MACHINERY COMPANY, Dept. FP, Durham, N. C.

When inquiring specify FP6886 — see handy form pages 2-3

MAKERS OF

FOOD PROTECTION PAPERS

★

GENUINE VEGETABLE PARCHMENT
SPECIAL TREATED . .
GREASEPROOF . .
WAXED . .

KALAMAZOO VEGETABLE PARCHMENT COMPANY

PARCHMENT · KALAMAZOO 99 · MICH.

BRANCH PLANTS IN HOUSTON, TEXAS AND PHILADELPHIA, PENNSYLVANIA

"THE WORLD'S MODEL PAPER MILL"

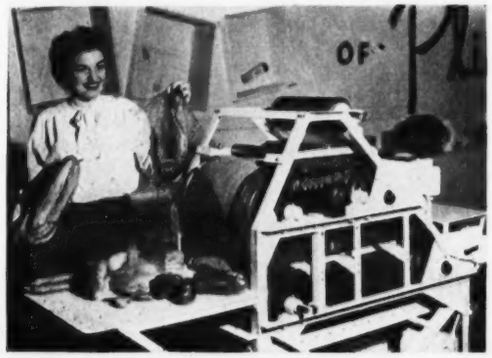
When inquiring specify FP6887 . . . see information request blank, pgs. 2-3

Packaging Machine Exhibits Speed on a Variety of Articles

Designed for use with transparent moisture-proof film wrapping

Uses — For high speed wrapping of a wide variety of regular or irregular shaped articles of different sizes. Designed for use with a transparent, water proof thermoplastic packaging material, it will tightly wrap such objects as chickens, chops, roasts, vegetables, fruits, and other foods.

Features — The machine is portable and may be used in the field wherever electrical power is available (110 volts). Operating belts on the machine will travel at speeds up



Machine packages irregular shaped articles

to 300 ft. per minute.

Description — Machine passes the wrapping material over electrically heated rollers and between two high speed rubber belts which cushion the plasticized film tightly around the surfaces of the object, and at the same time forcing all the air from within the formed enclosure. Descriptive literature may be obtained from the manufacturer.

GOODYEAR TIRE AND RUBBER COMPANY, Dept. FP, Akron, Ohio.

When inquiring specify FP6888 — see handy form pages 2-3

★

Frozen Food Container is Filled And Closed At High Speed

Container can be closed on automatic machines at speeds of 200 per minute

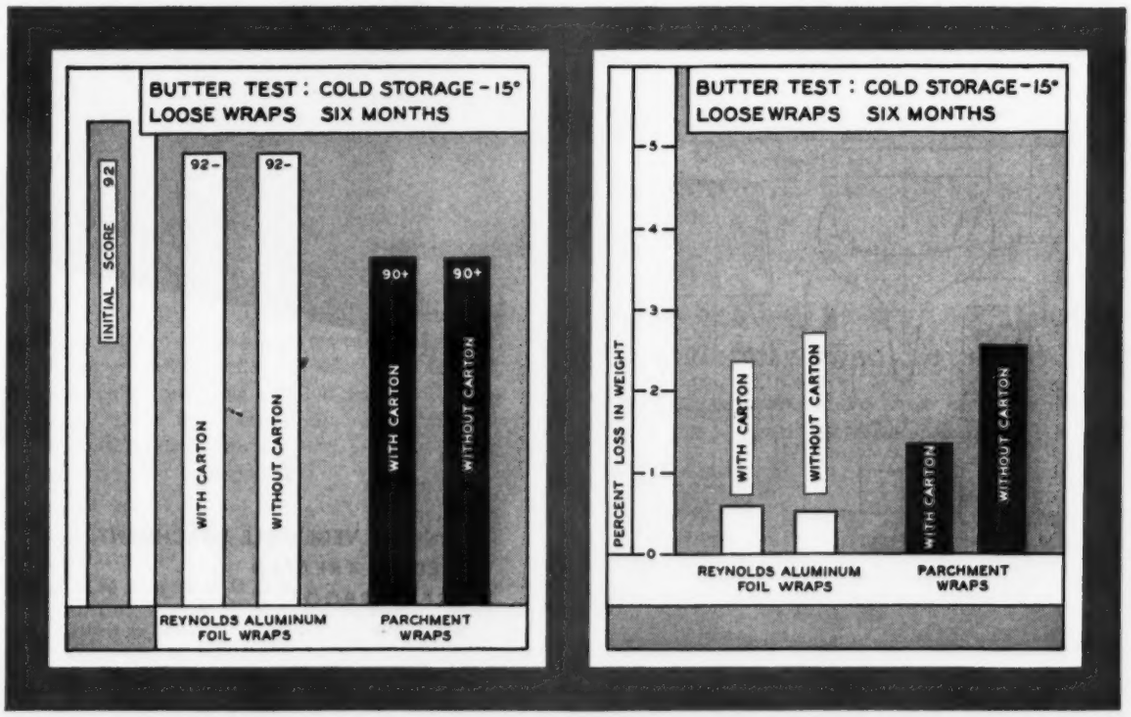
Uses — This frozen food container makes possible high-speed filling and closing of many food items. First consideration is being given to frozen fruits and vegetables. When production is stepped up the container will be available for other food products.

Features — The container eliminates the inner sealed bag or outer wrap now generally used. No hand setting-up is necessary. It is extremely resistant to the transfer of moisture-vapor and to water leakage, important to the protection of frozen foods. Container is easily opened by lifting either end with an ordinary hook-type opener. Other features claimed for the container include: attractiveness and neatness of the package, easy identification, stacking and display qualities, strength and retention of shape, elimination of torn labels, elimination of leakage,

Announcing

REYNOLDS ALUMINUM BUTTERWRAP

...a new development in butter protection



IN COLD STORAGE

The charts above show results of tests made under cold-storage conditions covering a period of six months. Note how the Reynolds Aluminum Butterwrap reduces loss of weight to a minimum and maintains initial score.

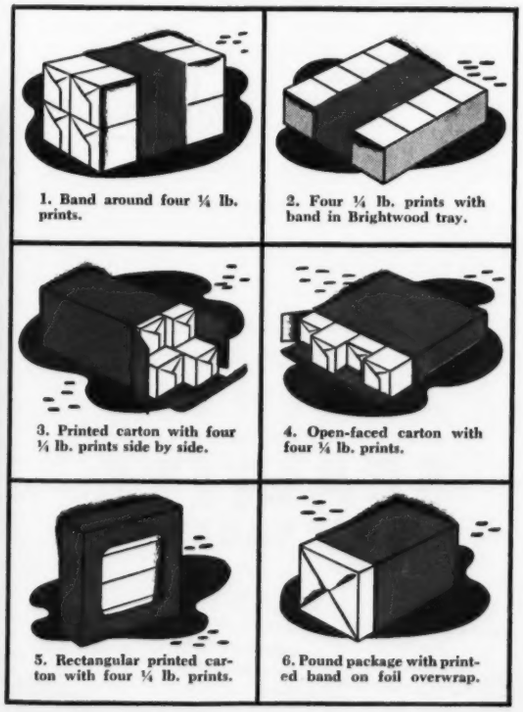
THE NEW REYNOLDS ALUMINUM BUTTERWRAP marks the first real advancement in butter protection for over a quarter of a century . . . It is the result of two years of research and testing in co-operation with one of the world's largest creameries.

KEEPS SCORE . . . CUTS WEIGHT LOSS. The charts shown here tell the dramatic story of how Reynolds ALUMINUM Butterwrap maintains butter at peak score, cuts loss of weight in cold storage and home refrigerators.

PREVENTS ODOR CONTAMINATION. What's more this new, modern wrap prevents transmission of odors. No longer must butter be contaminated by odors from other products or foods while in dealers' stores, or in the home.

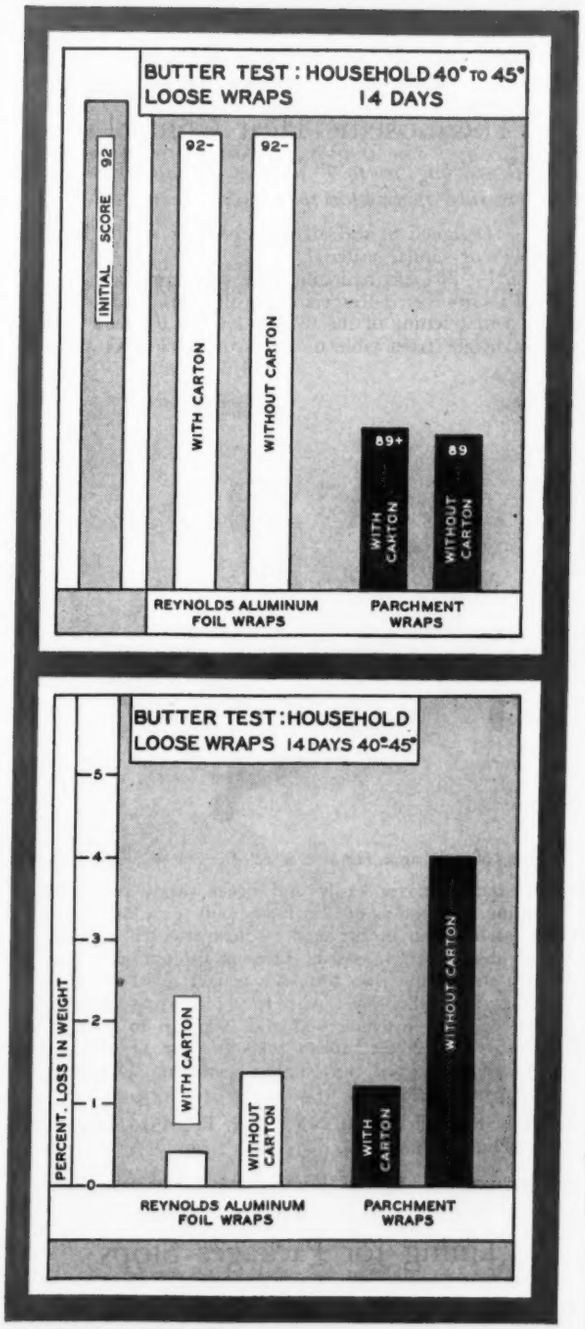
ADDED EYE-APPEAL STIMULATES SALES. Color printing and embossing gives Reynolds Aluminum Butterwrap maximum eye appeal, and opens up new fields of merchandising and display ideas.

New merchandising and display possibilities.



1. Band around four ¼ lb. prints.
2. Four ¼ lb. prints with band in Brightwood tray.
3. Printed carton with four ¼ lb. prints side by side.
4. Open-faced carton with four ¼ lb. prints.
5. Rectangular printed carton with four ¼ lb. prints.
6. Pound package with printed band on foil overwrap.

You are cordially invited to visit the Reynolds exhibit at the Dairy Industry Supply Association Exposition at Atlantic City, October 21st through October 26th. For further information about Reynolds Butterwrap write Reynolds Metals Company, Richmond 19, Virginia.



IN THE HOME Charts above show results of tests made at household refrigeration temperature over a period of 14 days. For the first time housewives are assured that your butter will retain its original creamery sweetness throughout the entire period of consumption.

REYNOLDS ALUMINUM FOIL

When inquiring specify FP6889 . . . see information request blank, pgs. 2-3

Packaging

tamper proof qualities, easy opening and removal of contents, easy refrigerator storage, improved preservation of contents and handling convenience.

Description — The container is an oblong, composite fibre-metal package resembling the conventional frozen-food carton in shape. Walls are made of paraffin-impregnated fibre, and the ends are of light weight metal. It is semi-

Frozen food container has fibre walls and metal ends

rigid in construction and is the outgrowth of knowledge gained from manufacture of the company's fibre milk container. The container is a complete package in itself and is printed at the point of manufacture in any two colors chosen from a large variety, eliminating the labeling process. It also is adaptable for use in all present types of freezing equipment and is made in five different sizes. Container will be closed on automatic machines capable of operating at speeds of up to 200 containers per minute, depending upon the product they contain. More details are available from the manufacturer.

AMERICAN CAN COMPANY, Dept. FP, 230 Park Ave., New York, N. Y.

When inquiring specify FP6890 — see handy form pages 2-3

★

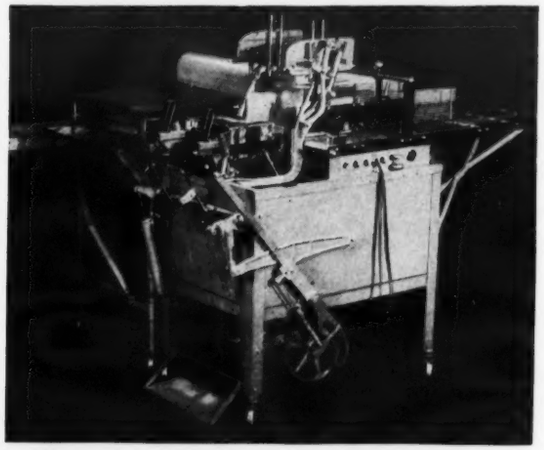
Suspended Closing Machines Meet the Needs of Small Plants and Special Conditions

A portable bag closing machine that is particularly adapted to use in small plants is presented in a four page bulletin. It uses the same classes of sewing heads as are used on the biggest and most expensive equipment. ¼ hp. motor meets the power requirements of the machine and a positive, simple drive is designed to tighten under load. The machine has finger tip control and an automatic braking device stops the head instantly on release of the drive engaging lever. Operation is simplified and thread is saved. An extra feature is the chain cutter which makes it possible to cut the chain of thread quickly and easily after each bag is closed. The booklet contains pictures of the machine in service in several plants and special models to fit many closure needs are listed and shown. Bulletin No. 201 is readily available.

UNION SPECIAL MACHINE COMPANY, Dept. FP, 498 N. Franklin St., Chicago 10, Ill.

When inquiring specify FP6891 — see handy form pages 2-3

WRAPS FRESH OR FROZEN VEGETABLES, FRUITS, MEATS IN TRAYS OR CARTONS



Corley-Miller

MODEL MPS WRAPPING MACHINE

SPEEDILY AND ECONOMICALLY wraps vegetables, fruits, meat, poultry or fish packages in many sizes. Cuts its own wrappers from cellophane or paper rolls. No tools needed to adjust. One girl is all you need to operate or adjust either the heat-sealing or glue-sealing models. Mounted on casters, the CORLEY-MILLER Model MPS can be rolled to the job. Plugs into any wall outlet for power. Send us samples of your packages. We'll quickly give you complete information on this versatile, dependable wrapping machine. *Quick deliveries possible!*

CORLEY-MILLER Model BJ VERTICAL HOT PLATE

Heat seals bags, cartons or other packages in MST Cellophane, waxed, or thermoplastic coated papers. Ideal for trays or window boxes. Non-corrosive stainless steel and aluminum construction makes it perfect for use in freezers, locker plants and other damp locations.

MACHINES FOR: WRAPPING, SEALING, BAG MAKING, BAG AND CARTON FILLING, BAG CRIMPING OR CLOSING, GLUING AND SHEETING, SANDWICH MAKING.

Miller *Wrapping & Sealing Machine Co.*

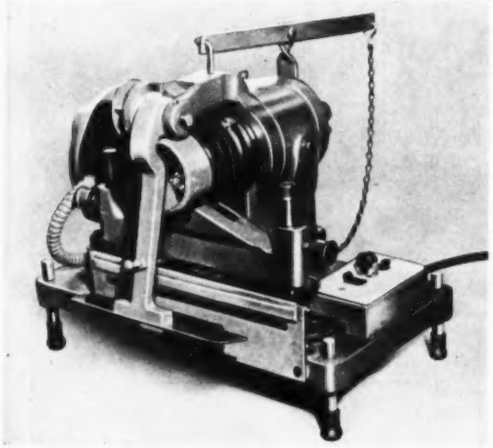
Dept. R, 18 SO. CLINTON ST., CHICAGO 6, ILL.

When inquiring specify FP6892 — see handy form pages 2-3

Crimp Bag Sealing Machine Has Thermostatic Heat Control

Will seal bags up to 7" wide at the mouth with pressure application that insures every seal

Uses — Designed to seal all types of heat sealing bags, envelopes or similar material.
Features — Efficient hydraulic type of thermostatic heat control assures correct temperature at all times. Adjustable shafts permit setting of the feeding level at the most convenient height from table or conveyor belt. Foot pedal clutch starter moves easily and never needs permanent mounting. Motor is of the heavy duty gear head type. This machine can be operated by inexperienced help and has an absolute safety guard. Efficient application of pressure to the sealing jaws insures a perfect seal every time. *Description* — Equipped with 8" wide crimp jaws this power operated machine will seal bags up to 7". An automatic folding mechanism folds the top of each bag as it is sealed in one fast, simple operation. Descriptive literature is available.



Folds top of each bag as fast as it is sealed in one simple operation

HEAT SEAL-IT COMPANY, Dept. FP, 4316 Lancaster Ave., Philadelphia 4, Pa.

When inquiring specify FP6893 — see handy form pages 2-3

★

Lining for Packages Stops Water Penetration

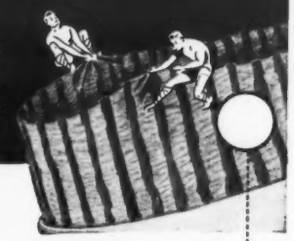
Provides tough, elastic, resilient fabric backing for boxes

Uses — Provides a strong, tough, flexible and resilient waterproof packing liner.
Features — With the use of this lining an actual "breathing package" is obtained. For, while waterproofing is accomplished moisture vapor as high as 10 grams per 100 sq. inches per hour is transmissible. This "breathing" property resists corrosion and rust from condensation within the package due to temperature change. This material may be heated or chemically sealed to give a positive water proof seal which is as strong or stronger than the basic material itself. Exposures to changes in temperature from minus 20° F. to plus 170° F. at maximum relative

CHASE LINERS

** Stop Liner Breakage!*

** Stretch in All Directions!*



Chase Liners are better, more resilient, more flexible! Here's why: they're crinkled for vertical elasticity *and* pleated for horizontal elasticity! Result: no more broken liners nor costly damage to contents due to liner failure.

Check on Chase Liners today. They're the crinkled and pleated liners that assure saving . . . that actually cost no more!

CHASE BAG CO.

GENERAL SALES OFFICES
309 WEST JACKSON BLVD., CHICAGO 6, ILL.

BOISE • DALLAS • TOLEDO • DENVER • DETROIT • MINNEAPOLIS ST. LOUIS • NEW YORK • CLEVELAND • MILWAUKEE • PITTSBURGH BUFFALO • KANSAS CITY • MEMPHIS • GOSHEN, IND. • PHILADELPHIA NEW ORLEANS • ORLANDO, FLA. • SALT LAKE CITY • OKLAHOMA CITY • PORTLAND, ORE. • REIDSVILLE, N. C. • HARLINGEN, TEXAS SHAGRIN FALLS, O. • HUTCHINSON, KAN. • WINTER HAVEN, FLA.

When inquiring specify FP6894 — see handy form pages 2-3

Maximum
SALES APPEAL
plus **LOW COST**
FEATURE
SEALTITE PACKAGES

★ The square Sealtite package has a flat top that permits stacking like a carton.
★ Sealtite uses any standard gusseted paper bag.
★ Reduces packaging costs as much as $500.00 per month per machine.

Write for information

CONSOLIDATED PACKAGING MACHINERY CORP.
BUFFALO, N. Y.

When inquiring specify FP6895 — see handy form pages 2-3

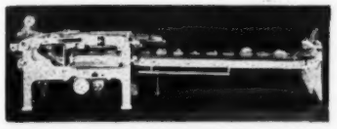
They come to

"OLIVER"

for the latest in automatic wrapping and labelling and label imprinting

One food chain operates 62 "Olivers"

234 independent processors and manufacturers — each operates one "Oliver"



Another food chain uses 46 "Olivers"

Most of these "Oliver" Wrapping Machines are used to wrap cakes, cookies, fresh fruits and vegetables in cartons, trays, U-boards and flat cards. But more and more processors find the "Oliver" solves their wrapping problems, too. The "Oliver" is also used to wrap frozen foods, dried fruits, dehydrated products, candies, etc., in almost any heat-sealing material. Discover the advantages of the automatic Cardboard Folder and Feeder, the automatic Roll-Type Labeller and Label Imprinter. The outstanding versatility of the "Oliver" Wrapping Machine will amaze you.

83 processors — each uses 2 to 5

Another food chain uses 26

Another food chain uses 40 "Olivers"

7 smaller chains—each uses 6 to 9

3 smaller chains—each operates 12

Write for all the facts

OLIVER MACHINERY COMPANY
Packaging Division Grand Rapids 2, Michigan

"Oliver" Wrapping Machine

WITH "OLIVER" AUTOMATIC ROLL-TYPE LABELLING SYSTEM

When inquiring specify FP6896 — see handy form pages 2-3

humidity are withstood without cracking, tackiness, flow, loss of flexibility or waterproofness. Because of the elasticity of the fabric and flexibility of cemented seam a box processed with this sealing material will withstand extreme distortions.

Description — Heat sealing of this material is at temperatures between 265° F. and 310° F. It is a synthetic, impregnated, coated and chemically treated liner fabric. It is furnished in panels or may be obtained in prefabricated bags to customer's size specifications. Further information may be had by writing.

PROTECTIVE COATINGS CORPORATION, Dept. FP, 689-91 Main St., Belleville 9, N. J.

When inquiring specify FP6897 — see handy form pages 2-3

★

Accurate Rapid Continuous Tabulating and Packaging

Machine covers a wide range of perles, capsules and mints

Uses — This machine is designed to count and package coated or uncoated tablets, capsules, perles, and the like into bottles, cartons, boxes, vials, and paper envelopes. *Features* — It is standard in construction throughout with the exception of the counting plate and container rack. Perfect packaging is assured by means of an automatic control placed underneath the bottom of a removable draw. This holds the container racks in alignment at all times.

Automatic tabulating and packaging machine

Description — The standard machine is 32 inches long, 16 inches wide, and is constructed of laminated wood. The floor of the machine is covered with plate glass for good sanitation and smooth operation. Hand sewed brushes in front and rear of the machine are mounted on springs which are instantly adjustable to variations in thickness of the plates. Funnels are used to direct the tablets, etc., into the containers. They are furnished in 2-3- and 6-hole capacities according to the size of the tablets and containers. These are instantly interchangeable. The counting plates are constructed of synthane or Masonite, treated with synthetic resin for purposes of sterilization.

C. L. OTTAWAY MFG. CO., Dept. FP, 200 W. Pomona St., Monrovia, Cal.

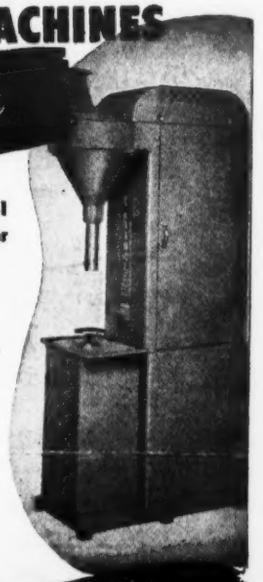
When inquiring specify FP6898 — see handy form pages 2-3

Package

POWDERS AND GRANULES
with these labor-saving
TRIANGLE MACHINES

powders

Triangle Model U-1
Automatic Feed Auger Packer



Packages all kinds of powders into bags, cans, jars or cartons in quantities from 1 ounce to several pounds. Filling starts automatically as soon as the container reaches the filling position and stops when predetermined amount of material is in container. Simplifying the operator's job in this way makes this machine 15 to 25% faster than old style auger packers. Production with one operator is 20 to 35 neatly and accurately filled packages per minute. Write for literature.

granules

Triangle P-1
Volumetric Filler

A high speed filling machine for packaging all types of granular materials. With this handy unit, one operator can fill from 20 to 50 packages per minute. It is available in various size models to handle packages from ¼ oz. to 16 ozs. This Model P-1 has four easily adjusted measuring chambers which insure accuracy and make it an extremely fast and labor-saving unit. A conveniently located handwheel makes it possible to regulate filling speeds. Write for literature.

TRIANGLE PACKAGE MACHINERY CO.
901 NO. SPAULDING AVENUE, CHICAGO
BRANCHES IN PRINCIPAL CITIES

When inquiring specify FP6899 — see handy form pages 2-3

...from Applesauce to Vinegar

...products that will be packaged by this ASCO Machine— versatile, sturdy, dependable — built to last. Do you have our descriptive literature!!

amon-schulte company, glenfield (pittsburgh suburb), pennsylvania

When inquiring specify FP6900 . . . see information request blank, pgs. 2-3

Close SMALL PAPER BAGS this better faster way

DUBL TAPE Closure

60000 D Sewing Head

FAST—Keyed to the output of standard filling and weighing equipment.

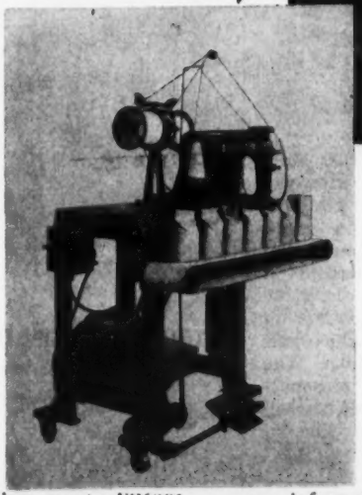
ECONOMICAL—Uses inexpensive cotton thread and paper tape.

EASY TO OPERATE — Inexperienced help can be trained to operate the machine in a few hours. Light, easy work.

DEPENDABLE—A precision built, quality machine designed for years of service.

SEMI-AUTOMATIC OR AUTOMATIC— For use as one operator machine or as part of completely automatic installation.

VERSATILE — Style 60000 DZ sewing head makes the bound-over tape closure on this range in sizes of filled paper bags.



Close small paper bags the Union Special way! Use the neat, attractive DUBL-TAPE CLOSURE produced with Union Special's 60000 D machine. It fits into today's production picture. UNION SPECIAL MACHINE CO., 432 N. Franklin St., Chicago 10, Illinois, U.S.A.

Union Special

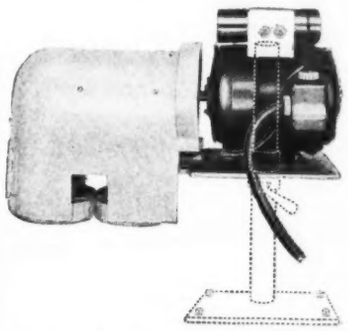
Bag Closing Machines

When inquiring specify FP6901 . . . see information request blank, pgs. 2-3

Packaging

Rotary Heat Sealer Operates Up To 300 Lineal Inches Per Minute

Pulling or distortion of bags eliminated by the driving of both sealing rollers



Sealer closes bags of any length

Uses — Sealing by heat products packaged in cellophane, foil, pliofilm, laminated bags and similar enclosures.

Features — Thermostatically controlled to seal a wide variety of heat sealing materials, the unit can be operated horizontally, vertically or at an angle and can seal any length bag, pouch, barrier, etc. Driving of both sealing roller shafts eliminates pulling or distortion of the bags as they travel through the sealing rollers. Speeds up to 300 lineal ft. per minute are obtainable depending on the material being sealed. A simple tension adjustment is provided for pressure on sealing rollers. Choice of sealing krimps may be had: vertical, horizontal, checkered or flat seal. Wiring is directly to stationary ring heating units under transite plates covering both sealing rollers.

Description — Unit is light weight and compact, approximately 19 inches from front to back, 9 inches from left to right, and 9 inches from mounting base to top. A lifting-lowering stand may be had if desired. A preheater attachment is available for materials which require preheating before entering sealing rollers. Detailed information may be secured.

PACK-RITE MACHINES, Dept. FP, Division of Techtmann Industries, 714 W. Wisconsin Ave., Milwaukee 1, Wis.

When inquiring specify FP6902 — see handy form pages 2-3

*

"Into the Freezer and Out" Presents Needed Information to Locker Plant Owners

A 256 page book is packed full of facts for locker plant operators, home economists, owners and prospective owners of food freezers. Two chapters outline possible future developments, how the freezer will save money, the services performed by locker plants, planning and managing freezer space, why frozen foods are equivalent to fresh in the daily diet, packaging and storage temperatures, preparation procedures, and facts of importance to persons in this interesting field. The publication "Into the Freezer and Out" is available at $2.50 per copy on remittance to the pubisher. Please do not send orders for copies to this magazine.

THE AVI PUBLISHING COMPANY, Dept. FP, 31 Union Square, New York 3, N. Y.

When inquiring specify FP6903 — see handy form pages 2-3

How To Select The BEST Labeler in the WORLD

For Your Containers . . .

Your Labels

It's a cinch, really.
All you need to do is put it up to WORLD labeling headquarters, preferably with samples of the containers and labels.
WORLD is the only organization that engineers and builds **every** type and size of Labeler.
It follows that the World Labeler prescribed for the job is the one best Labeler for the purpose.
That's all there is to it, but the difference in labeling efficiency and economy may be very great. Why not find out once and for all, what's the best Labeler in the WORLD for you?

ABOVE: The WORLD BEE-LINE Labeler is applying scores of nationally famous food, liquor, condiment, drug and cosmetic labels.

RIGHT: The WORLD MODEL S has a range of versatility and adaptability that makes it ideal for countless specialty applications.

When inquiring specify FP6904 — see handy form pages 2-3

For The Latest Word in

CONTAINER SEALING EQUIPMENT

Write *today* for PACKOMATIC's *New* MODEL "D" CASE SEALER folder that describes this most effective and economical way to *automatically* glue and seal most types of paper shipping cases.

Adjustable to a variety of glue spreads, a wide range of shipping case sizes—PACKOMATIC's MODEL "D" can be used for top sealing or bottom sealing only—or for both simultaneously.

Folder also describes PACKOMATIC's Consecutive Serial Numberer, Automatic Case Imprinter and PACKOMATIC Hand Glue Belt Compression Unit.

WRITE TODAY FOR FOLDER

PACKOMATIC

PACKAGING MACHINERY
J. L. FERGUSON CO. JOLIET ILL.

New York • Chicago • Boston • Cleveland • Denver
Los Angeles • San Francisco • Seattle • Baltimore
Philadelphia • Portland • Tampa • Dallas

When inquiring specify FP6905 — see handy form pages 2-3

Packaging

Frozen Foods Freeze 30-50% Faster in Metal Foil Cartons

Single-unit package uses no inner or outer wrap; butter wrap cuts storage losses

Uses — Metal foil bags, cartons and overwraps for candy, confections, frozen foods, butter, dried fruits and potato chips. Also metal foil labels for canned and bottled foods and beverages. Has been used successfully as a bag for hard candies or as an overwrap for 20-unit cartons of same. Foil wraps for candy bars, individual pieces of boxed candies and decorative box coverings for fancy confections and bon bons. Vinyl-coated wraps for portion and whole packaged cream cheeses.

Features — Reynolds Pak frozen food package; single-unit package eliminates both inner and outer wraps, reduces freezing time 30-50%; no freezer burn, leakage or drying-out of contents; precooked foods may be packaged while hot and reheated in package.

Reyseal overwrap: heat sealing and moisture proof; can be printed with eye-catching effects, enhancing appearance and sales appeal of frozen foods and other packaged goods; on candies and confections it prevents deterioration, protects against air, light, and moisture vapor transmission.

Foil wrap for butter: reduces loss of weight during storage; maintains freshness and flavor longer; during tests it has maintained weight and score satisfactorily up to six months under cold storage conditions and temperatures.

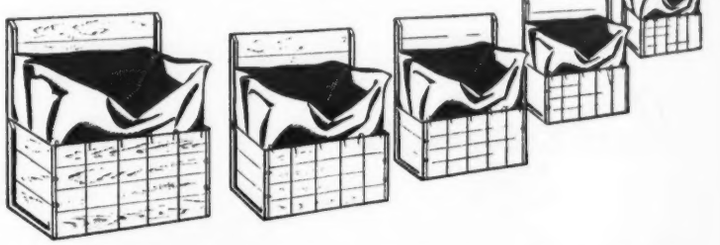
Foil labels: an important prewar item, these are again available for canned and bottled foods and beverages. Permit natural color reproduction of fruits, vegetables and prepared dishes from photographs; gold, aluminum and bronze finishes contrast nicely with color of juice or bottles; gives new meaning to old and valued labels; clarity of color and high reflectivity lends itself to mass displays; resists dust and fingermarks; appetizing, highly sanitary appearance.

Description — Reynolds Pak: single-unit package; special machinery has been developed to form, fill and close carton. Reyseal overwrap: a foil material consisting of multiple lamination of foil, paper, wax and tissue. Butter foil wrap: foil laminated to parchment; has undergone exhaustive tests.

REYNOLDS METALS COMPANY, Foil Division, Dept. FP, Richmond, Va.

When inquiring specify FP6906 — see handy form pages 2-3

New Age of Air Freight Emphasizes Importance of Protective Packaging



Your responsibility for safe arrival of fresh food products, whether lobsters in prime seacoast condition or luscious field-ripened strawberries, is greater today than ever before because shipment of fresh foods BY AIR places additional emphasis on protective packaging. AQUASTOP for bulk shipments of fresh foods by air or ground transportation combines a number of advantages unique in a packaging material.

Very light containers may be used with AQUASTOP because this material is tough, flexible, durable and remains waterproof indefinitely.

Permeable to "dry ice" gas emanations, but impermeable to water from water-ice, AQUASTOP is safe at sea level or for altitude flying, protecing contents which it encloses without damage to other units in the same load.

AQUASTOP is heat sealable, easy to use, practical and profitable.

AQUASTOP advisory service is complete. You are invited to use it without obligation. Prompt consideration will be given to your inquiry.

TECHNICAL DATA

No cracking
No tackiness

No flow
No loss of flexibility

The seal is as strong as the material itself.

Retains waterproofness
Permeable to CO_2
Impermeable to water

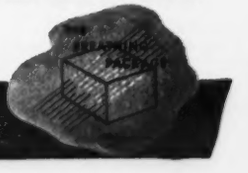
Withstands minimum hydrostatic pressure of 40 pounds per sq. in.

PROTECTIVE COATINGS CORPORATION

Manufacturers and Consultants

684 MAIN STREET • BELLEVILLE, N. J.

AQUASTOP

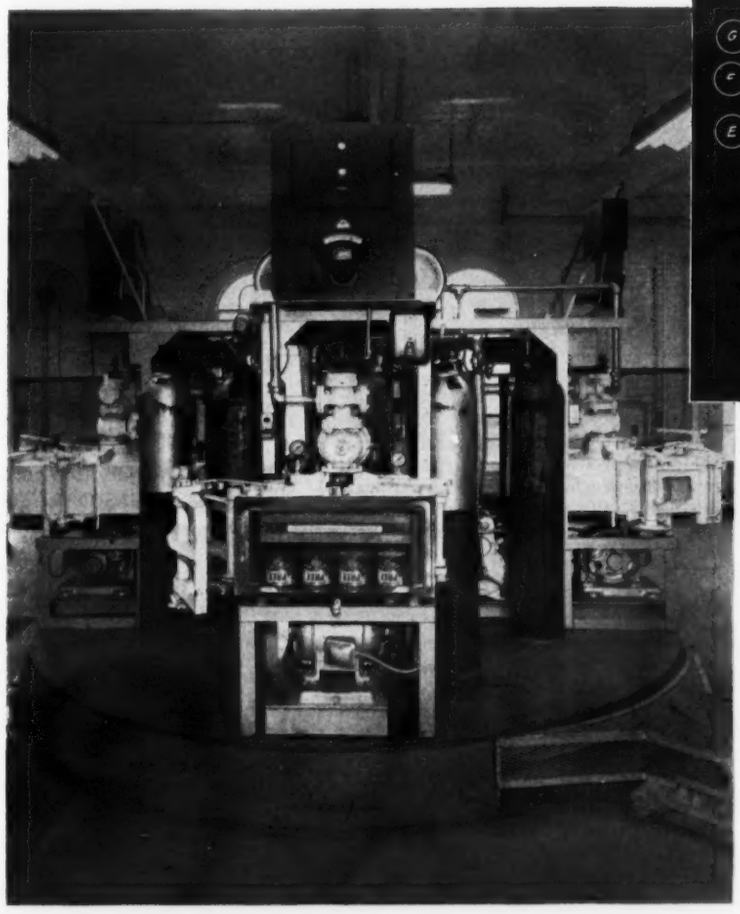


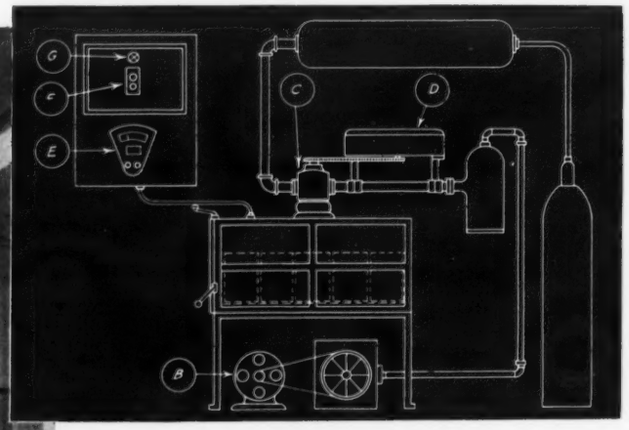
When inquiring specify FP6907 — see handy form pages 2-3

★ Control System Interlocks Aid Packaging of Whole Milk Powder

• Phase Microscope EXPLORES the Invisible

Instruments





Closeup of turntable shows arrangement of vacuum chambers and control equipment. Schematic layout of one of four chambers, timer, pressure control and motor operated valve are indicated

★

Turntable arrangement of vacuumizing equipment and control system boosts packaging 400%

USES — A co-ordinated system of controls including timer, pressure controller, and motor operated valve is suitable for many vacuumizing applications. Sequence and timing controls permit vacuumizing, and introduction of inert gases.

Features — In the arrangement shown four vacuum chambers are mounted on a turntable which provides production rates of 12 to 14 five-pound cans and 40 to 50 one-pound per minute. Manual labor is reduced to a minimum. Floor space is reduced.

Description — Each of the four vacuum chambers, mounted on the turntable, is a complete unit. Included with each chamber is a vacuum pump, an inert gas cylinder and an automatic time-pressure control system. Operating sequence with a batch of ten 5-lb. cans loaded in a vacuum chamber consists first of starting vacuum pump (B) and energizing motor operated valve (D) (C). This opens vacuum channel of the valve (C). Desired vacuum of 29.8 in. of mercury is reached in about 50 seconds, at which instant a pressure controller (E) closes its "Low" contact. Then a vernier set timer (F) is actuated and times a pre-set interval of 50 seconds — the length of high vacuum treatment; timer contacts then trip and motor operator shuts off vacuum line and opens the inert gas (nitrogen) channel of the 3-way valve. Pressure within the chamber climbs, in about 55 seconds, to ¼ pound — at which point, pressure controller (E) makes its "High" contact. Motor operator (D) is given this impulse to drive valve (C) to its closed position — thus tripping a limit switch in the valve operator which lights up signal lamp (G) to indicate completion of the cycle. The unloader, upon removal of the tray from the pressure chamber, throws off the starting switch, which resets the timer and all equipment in the system is ready for another cyle. Door switches may be provided in place of manual switches, thereby eliminating dependency on the speed and attention of the human element. Complete information on this equipment is available on request.

AUTOMATIC TEMPERATURE CONTROL COMPANY, INC., Dept. FP, 34 E. Logan St., Philadelphia 44, Pa.

When inquiring specify FP6908 — see handy form pages 2-3

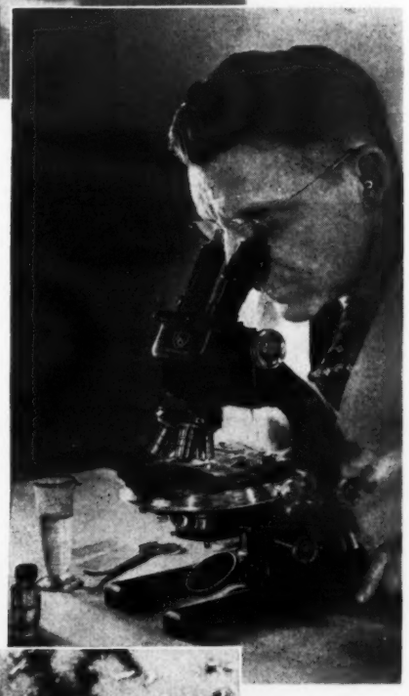
● ***Microscopy permits studies of glass and transparent plastic surfaces, emulsions, minerals, crystals, synthetic fibers and living organisms.***

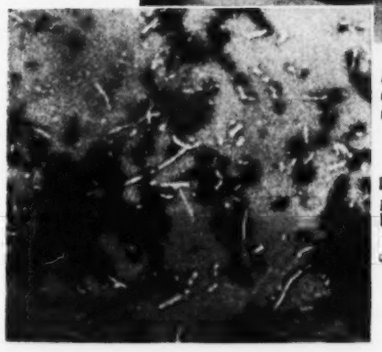
USES — This instrument extends the range of human vision beyond the limits of present microscopes and permits the observation and study of plant and animal life, parasites, emulsions, replicas of metal and other surfaces, glass and plastic transparent surfaces, minerals, crystals, synthetic fibers and other materials. In industrial applications, for instance, crystals otherwise barely visible can be seen with the device.

Features — The unit makes possible an accurate study of transparent living organisms. Staining with dye is not required.

Description — Equipment consists of a series of light-controlling diffraction plates. Placed in an objective lens system, the plate makes detail visible within a specimen by increasing, reducing or reversing contrast in the image formed by the microscope. To transform a standard light microscope into a phase microscope the equipment required consists of a diaphragm for controlling light concentrated on a specimen and one of the new diffraction plates placed in the objective lens system. An auxiliary telescope used in place of the microscope eyepiece is helpful while centering the equipment. Different types of the diffraction plates are preferable for various kinds of investigations. Many materials are so transparent that nothing can be seen with regular microscope equipment, their internal structures usually do have differences in optical path which

Light - controlling diffraction plate makes transparent objects visible.





Mold fragments made visible by the instrument.

Phase microscope permits study of living cells, micro-organisms and industrial materials.

alter the phase of any light passing through them. The material and size of the parts of the specimen produce the optical path differences.

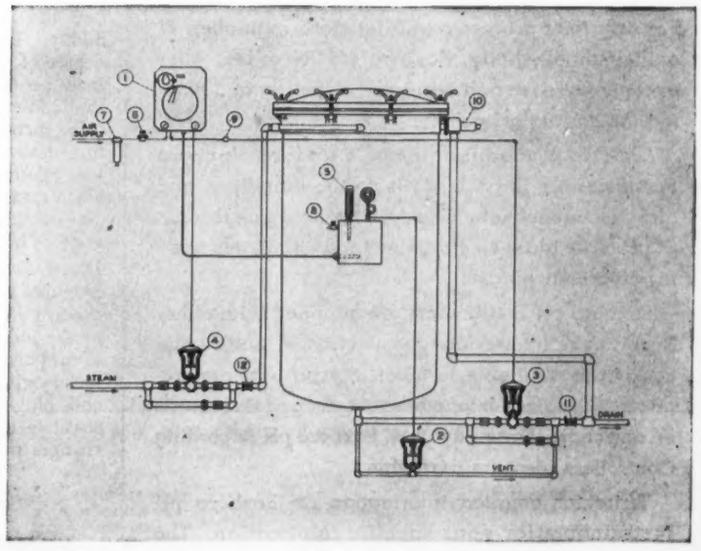
The diffraction plates change the light in such a way that detail in a specimen can be observed. The specimen is first illuminated by a hollow cone of light and a diffraction plate, inserted within the microscope objective. Depending on the kind of diffraction plate, any regions within the specimen of different optical paths can be made bright on a dark background, or dark on a light background. The invisible phase differences of the light are converted into illumination differences to which the eye is sensitive. It is planned to make the equipment available for several models of the company's Spencer microscopes. Additional information may be secured on request.

AMERICAN OPTICAL COMPANY, Scientific Instrument Division, Dept. FP, Southbridge, Mass.

When inquiring specify FP6909 — see handy form pages 2-3

Start Right with a Taylor Control System!

COMPETITION is going to be tough again. The top profits will go as usual to the packer who gives the extra ounce of quality for the money. And one of the ways to do that is to install a Taylor Retort Control System *NOW!* For example, the No. 4A Retort Control System shown here is designed especially for cylindrical cans up to and including No. 2's. *All the operator has to do* is load the retort, fasten the cover, and set the timing mechanism to the correct cooking time. Steam is admitted automatically, and exact temperature control is maintained for the precise length of time desired, when steam is automatically shut off and retort blown down. It cuts manual control to a minimum and eliminates guesswork.

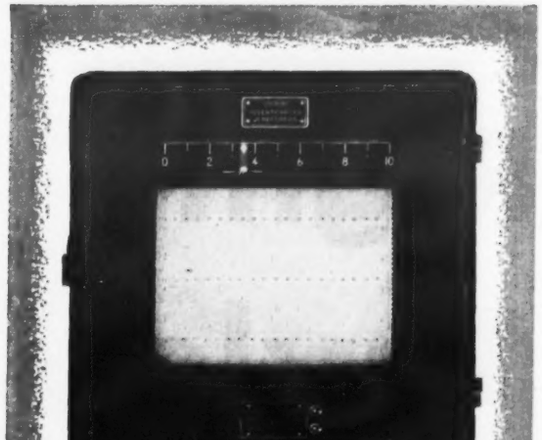


For complete details on other retort control systems, write for Catalog 500—just off the press; or ask your Taylor Field Engineer to call. Taylor Instrument Companies, Rochester 1, N. Y., and Toronto, Canada.

Instruments for indicating, recording and controlling temperature, pressure, humidity, flow and liquid level.

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

. . . see information request blank, pgs. 2-3



Easier, More-Exact pH REGULATION

For any food process requiring close regulation of acidity or alkalinity, Foxboro pH Recorders offer exceptional ease and accuracy in finding and holding the correct pH point.

A perfect combination of standard Foxboro Potentiometer Recorders, electronic amplifiers and glass electrodes furnishes continuous, exact records of pH. The glass-electrode method eliminates need for color-matching.

Foxboro pH Instruments are supplied with either flow-type or immersion-type electrodes. Scales and charts are available to meet any process requirement. Multiple-point models record up to six records on one chart. For many uses, Foxboro pH Recording Controllers also are available.

Write for detailed information on Foxboro pH Instruments for your specific application. **The Foxboro Company, 174 Neponset Avenue, Foxboro, Mass., U. S. A. Also Montreal, Canada.** Branches in principal cities.

FOXBORO

INDICATING • RECORDING • CONTROLLING

INSTRUMENTS

When inquiring specify FP6911 — see handy form pages 2-3

Electric Hygrometer Employs Fast Sensing Element

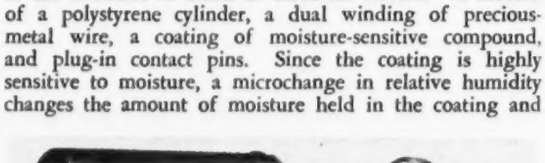
Microchanges within plus-minus 0.5% relative humidity are instantly sensed

Instrument indicates and records relative humidity

Uses — For the precise measurement and control of humidity this device is useful in the tests and studies of Water Vapor Permeability, Water Absorption and Adsorption, Biological Control Pharmaceuticals, Climate Data, Water Vapor Retention, Food Packaging, Long-time Preservation Packaging, Dehydration and Decomposition of Organic Materials.

Features — Measuring element is sensitive, compact, precise and instantly responsive to changes in relative humidity. Readings are reproducible. Element has a high degree of stability under all conditions of use. It adds no moisture to nor removes any from the space whose moisture content is being measured or controlled. Only two cubic inches of space are required for the element. Moisture determinations are accurate at low temperatures and low relative humidities. Observational errors that occur when measuring or controlling relatively low temperatures and humidities are not greater than when measuring moderate or high temperatures and humidities.

Description — The heart of the electric hygrometer is the humidity sensing element which responds instantly to microchanges in relative humidity, and transmits these changes to the indicator in terms of electrical current. It consists of a polystyrene cylinder, a dual winding of precious-metal wire, a coating of moisture-sensitive compound, and plug-in contact pins. Since the coating is highly sensitive to moisture, a microchange in relative humidity changes the amount of moisture held in the coating and



Sensing element occupies two cubic inches

changes the conductivity between the two wires, thus changing the amount of current indicated on the dial of the meter.

Eight sensing elements, when used together, cover the entire relative humidity range from 7% to 100%. Sensing elements may be used singly for a narrow range of relative humidity, or in multiple by means of a multiple mounting unit equipped with a selector switch that permits the selection of any one of the ranges covered by an individual sensing element.

Calibration curves are supplied with each sensing element. These curves interpret either microampere meter readings in terms of relative humidity when an indicator is used, or dial reading in terms of relative humidity when a controller is used.

The standard temperature range of the hygrometer is 40 degrees to 120 degrees Fahr. dry bulb. Calibration data for lower and higher temperatures are available. Instruments available for use with the sensing elements include Indicators, Recorders and Controllers. Descriptive literature may be had on request.

AMERICAN INSTRUMENT COMPANY, Dept. FP, 8010 Georgia Ave., Silver Spring, Md.

When inquiring specify FP6912 — see handy form pages 2-3

★

Thermocouple-Ionization Gauge Handles Wide Range of Vacuum

Range of vacuum measurement is 1 mm. to 2×10^{-7} mm. of mercury

Type 706 thermocouple-ionization gauge control

Uses — The thermocouple-ionization gauge control incorporates circuits for use with the type E thermocouple gauge or any standard ionization gauge and is used in vacuum measurement.

Features — Thermocouple gauge circuit is production tested, ionization gauge circuit has outgassing provision. Unit includes interlocking relay for protection, zero set and zero adjust controls for amplifier balancing.

Description — The thermocouple gauge control is the standard and proven circuit used in the Type 701 Control, and the ionization gauge control circuit is provided with an amplifier to read microamperes of ionization current on four ranges. These ranges indicate full scale meter deflection at 500, 100, 10 and 1 microamperes respectively and with the Type 507 ionization gauge it is possible to read full scale pressures of 5, 1, 0.1, and 0.01 microns directly from the plate meter. By doubling the grid current of the 507 gauge the response of the gauge is doubled. Under normal grid currents of 5 milliamps the lowest pressure measurable on the ionization gauge circuit is 2×10^{-4} microns (2×10^{-7} mm. Hg.) The ionization

control is provided with an "outgas" circuit so that on gauges such as the Type 507, the filament current may be used to degas the grid element. A conveniently located "Zero Set" button and "Zero Adjust" knob permit easy balancing of the amplifier at any time. An interlocking relay on the "Ion Grid Current" adjust knob makes it impossible to turn on the filament current unless the grid current control is returned to zero, thus protecting the filament from burning out if the pressure in the gauge is too high. All controls are located on the front panel for ease in operation. The circuits and electrical components are all located on a chassis which is attached to the panel so that the control panel assembly may be removed as a unit from its box and inserted in the control panel of any major piece of vacuum equipment. The 706 control is designed so that it may be run with the panel either in a vertical position or face up on a table for ease in operation. A convenient carrying handle is located on the top of the metal box enclosing the elements. More details available on request.

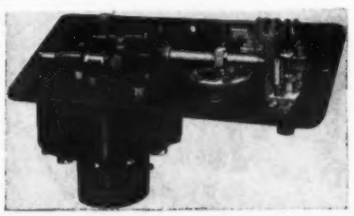
VACUUM ENGINEERING DIV., NATIONAL RESEARCH CORP., Dept. FP, Boston 15, Mass.

When inquiring specify FP6913 — see handy form pages 2-3

★

Differential Transmitter Meters Hot Coal Tar, Pitch or Fat

Device is piston operated. Temperature changes do not affect easy operation



Republic piston type pneumatic transmitter

Uses — Unit is designed for the metering of the flow of hot liquids, which are so viscous at room temperatures that they congeal in the lead lines.

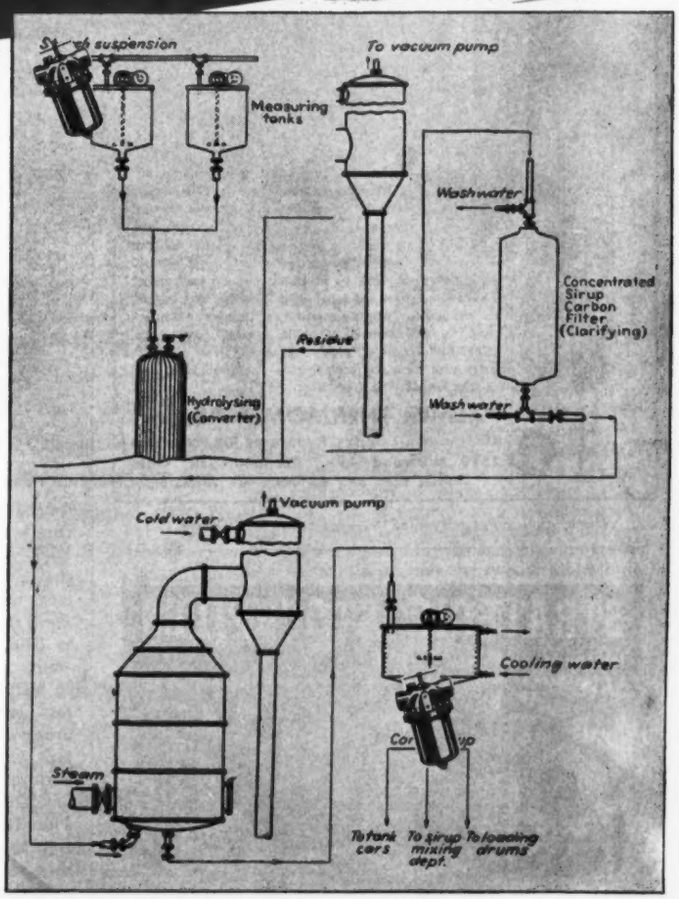
Features — Avoids necessity of long lead lines between orifice and meter.

Description — Regular orifice tap connections are made between orifice and piston of the transmitter. Transmitter develops an air impulse proportional to the pressure drop across the orifice in pipe line in which hot liquid is flowing. Developed air impulse is directed to an indicating, or recording flow meter. A piston (in the transmitter) is used instead of the usual diaphragm to avoid the effect of hot liquids on the diaphragm (non-metallic diaphragms are not suitable above 200° F. and metallic diaphragms might give erratic results at high temperatures). The transmitter is designed for installation in a manner that keeps the measuring chambers hot enough to prevent the measured fluid from congealing in the transmitter chambers and lead lines. The piston and cylinder are made of steel of the same composition, so that the clearance is maintained regardless of temperature changes. This piston type transmitter is now being used for the measurement of coal tar pitch at a flowing temperature of 550° F. and the flow of petroleum tar at 600° F. Detailed information is available on request.

REPUBLIC FLOW METERS CO., Dept. FP, 2240 Diversey Pkway., Chicago 47, Ill.

When inquiring specify FP6914 — see handy form pages 2-3

WHAT THE FLUID PICKS UP AUTO-KLEAN PICKS OUT



Unwanted solids in raw materials . . . dirt and pipe scale in process water . . . contamination in the final product . . . get no farther than a Cuno Auto-Klean filter. The all-metal element won't let by any particles larger than the size specified.

This added protection is provided at small cost, small expense of space and without requiring any delay in production. The Auto-Klean handles full flow (no costly duplex installation needed), and is cleaned, itself, merely by the occasional turning of a handle, and without stopping flow. Its all-metal construction means a minimum of maintenance and gives your product more assurance of protection from contamination . . . and your equipment more protection from damage.

Cuno Filters are usable under a wide range of pressure, temperature, corrosive and erosive conditions and come in models to handle a few gallons per hour or millions of gallons per day.

Write for Cuno's new "Food Applications Catalog", using coupon if you wish.

APPLICATIONS WHERE CUNO FILTERS ARE ON THE JOB

alcohol
banana pulp
beer
beverages
catsup
chocolate liquors
concentrates
cooling water
extracts
flavors
fruit nectars
ingredient water
lubricating oil
mayonnaise
molasses
mustard
pectin
salad dressing
sewage
syrups
tomato juice
tomato sauce
vegetable juices
vegetable and animal oils
wash water

KEEP FLOW ON "GO" WITH CUNO ENGINEERED FILTRATION

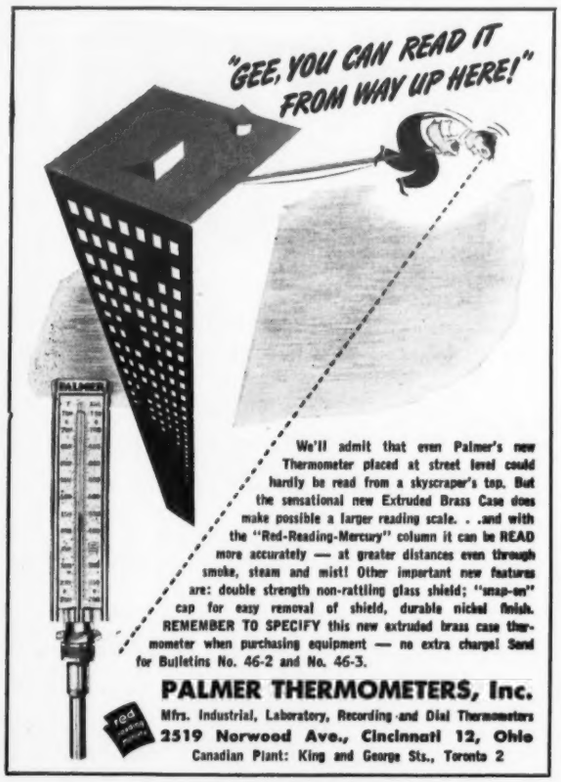
CUNO ENGINEERING CORPORATION
5513 South Vine Street, Meriden, Connecticut

Send me the free "Food Applications Catalog" and "Quick Facts" Booklet.

Name .....
Company .....
Address .....
Product to be strained .....

Include your own flow sheet for suggestions

When inquiring specify FP6915 . . . see information request blank, pgs. 2-3



We'll admit that even Palmer's new Thermometer placed at street level could hardly be read from a skyscraper's top. But the sensational new Extruded Brass Case does make possible a larger reading scale. . .and with the "Red-Reading-Mercury" column it can be READ more accurately — at greater distances even through smoke, steam and mist! Other important new features are: double strength non-rattling glass shield; "snap-on" cap for easy removal of shield, durable nickel finish. REMEMBER TO SPECIFY this new extruded brass case thermometer when purchasing equipment — no extra charge! Send for Bulletins No. 46-2 and No. 46-3.

PALMER THERMOMETERS, Inc.

Mfrs. Industrial, Laboratory, Recording and Dial Thermometers

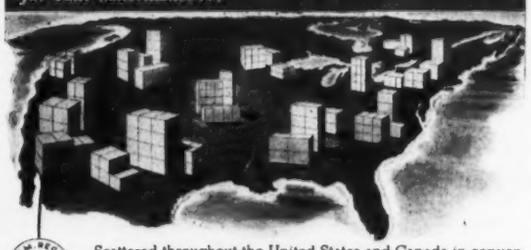
2519 Norwood Ave., Cincinnati 12, Ohio

Canadian Plant: King and George Sts., Toronto 2

When inquiring specify FP6916 — see handy form pages 2-3

STRATEGIC STOCKPILES

for Your Convenience . . .



Scattered throughout the United States and Canada in convenient locations are stocks of Pyrex, Vycor and Corning brands of laboratory glassware. These are the inventories your laboratory supply dealer carries . . . carries for only one reason — YOU.

In a sense each of these inventories is personal. For all are different. Each is built-up and maintained for the selected group of customers served by a particular laboratory supply house. Stocks carried are based on the dealer's knowledge of his customers' needs and are always as complete and as well balanced as factory shipments permit. If your dealer hasn't a particular item, you may be sure the factory hasn't it either. That is why Corning Glass Works urges you to contact your dealer whatever your requirements may be. His is a professional service to professional men. He is the one who can serve you best. The closer you work with him the more time and money you save.

Corning Glass Works is proud of its dealers and wants all users of all its laboratory glassware lines to learn to know their nearest dealers better . . . and to use their services to the fullest extent.

"Pyrex," "Vycor" and "Corning" are registered trade-marks and indicate manufacture by

CORNING GLASS WORKS · CORNING, NEW YORK

PYREX brand LABORATORY GLASSWARE — FOR ALL AROUND USE . . . YEAR ROUND ECONOMY — Corning means Research in Glass

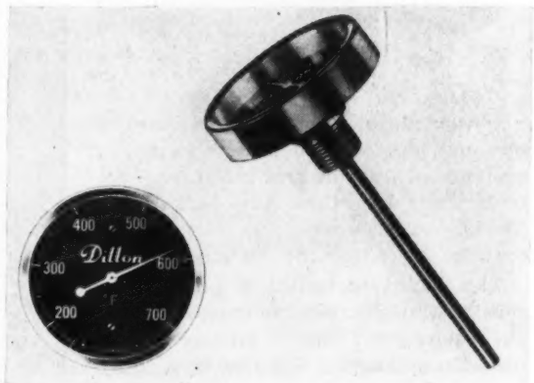
When inquiring specify FP6917 — see handy form pages 2-3

Dial Type Thermometer Has All Stainless Steel Construction

Accuracy unaffected up to 50% overload above 500° F. range

Uses — This indicating thermometer is useful for the measurement of temperatures of liquid or gases.

Features — Pointer of the indicator is fixed to the stainless steel shaft and the shaft directly to soil. No gears are required. This design assures accuracy and long life. Accuracy unaffected up to 50% overload above 500° F. range. 10% above 750° F. range. Overall accuracy is 1% of the range of the entire scale. Stem is only ¼" in diameter, which permits its use in "tight" spots.



Dial thermometer measures liquid and gas temperatures

Description — Dial sizes are 3" and 5" standard. Stem is 18-8 stainless steel which is resistant to all but a few acids. ½" standard pipe thread mounting nut is welded to stem for most pressure uses. End plug is also stainless steel and is welded to stem. Either 5" or 9" stems are available from stock. Special length stems are available on order. The head bezel fits tightly over gasket — sealing the dial for moisture resistance. Dial is made of anodized aluminum. White figures on black background. Heat resistant. Glass is of crystal plate, or a lucite crystal is available where breakage is a possibility. 3" diameter unit weighs 8½" oz. 5" model 14 oz. Centrigrade dials available on order. Detailed information on request.

W. C. DILLON & COMPANY, INC., Dept. FP, 5410 W. Harrison St., Chicago 44, Ill.

When inquiring specify FP6918 — see handy form pages 2-3

★

Mercury Temperature Regulator Has Signal Light

Suitable for range of 30° F. to 500° F.
Sensitivity is plus or minus .02° F.

Uses — This regulator is intended for control of temperatures of water, oil, air baths, ovens and other applications in the setting range of minus 30° F. to plus 500° F.

Features — Unit has a red or white signal light which glows brilliantly while temperature is rising and shuts off when set temperature is reached. The signal light can be seen at a distance when glowing, and thus permits operator to perform other duties since he can determine at a glance

4th Printing

The most popular Beckman pH Booklet ever published!

"What Every Executive Should Know About pH" — a short straight-to-the-point outline of pH, what it is, how it's used—has proven so popular it has been reprinted again and again to meet the unprecedented demand. A top executive in one of the nation's leading corporations writes.

"An excellent job of reducing a complex subject to easily-understood fundamentals. May we reprint it for use in training our men?"

Another writes:

"This is the simplest, most easily-understood explanation of pH I have ever seen. May we have extra copies for plant educational work?"

Send for your free copy

Wherever there's water, there's pH! Perhaps this booklet can help you cut production costs, improve uniformity, reduce waste through the modern miracles of Beckman pH Control. A copy will be sent you free on request. Write today!

BECKMAN INSTRUMENTS
National Technical Laboratories
South Pasadena 19, California

BECKMAN INSTRUMENTS CONTROL MODERN INDUSTRIES

When inquiring specify FP6919 — see handy form pages 2-3

Extra Protection

FOR VITAL REFRIGERATION

DEPENDABLE *Expansion Valves*

Most Refrigeration Engineers will tell you that an A-P Thermostatic Expansion Valve on any refrigeration unit is the best possible assurance of "trouble-free" refrigerant control. With their large area diaphragm and liquid charged power element, A-P Valves are sensitive to the slightest changes in pressure. This helps you maintain steadier refrigerating temperatures in any unit . . . during a long life of more effective operation — for economical and profitable operations in storage or processing

A-P Model 205

Thermostatic Expansion Valve. Capacity, to 2½ tons Freon. Others rated from ¼ ton to 16 tons Freon.

AUTOMATIC PRODUCTS COMPANY

2428 North Thirty-Second Street, Milwaukee 10, Wis.

Export Dept., 13 East 40th Street, New York 16, N. Y.

DEPENDABLE *Refrigerant Valves*

RECOMMENDED AND INSTALLED BY LEADING REFRIGERATION ENGINEERS

When inquiring specify FP6920 — see handy form pages 2-3

when temperature in bath, oven, etc. has reached set temperature and when regulator is operating properly. Signal light is easily replaced.

Description — This thermoregulator, which is available in 6, 8, 10, or 12 inch lengths, has durable machined plastic head whose design provides full visibility for easy setting, a convenient means for mounting, and an appropriate mounting for signal light. Contributing to the temperature regulator's accuracy and long life, is the manufacturer's improved distilling and filling method by which the mercury is distilled directly into the regulator without being exposed at any time to atmospheric air, thus providing higher purity of mercury. Descriptive bulletin No. 100-27 is available on request.

WASHINGTON GLASS LABORATORY & INSTRUMENT CO., Dept. FP, 3224 Georgia Ave., N. W., Wash-

When inquiring specify FP6921 — see handy form pages 2-3

★

Purity Meter Reads Directly in p.p.m. as NaCl

Conversion table shows equivalent resistance and conductance

Purity meter checks distilled water or dimineralized water

Uses — To users of distilled water this device measures the total solids in water as p.p.m. of Na Cl, also a new conversion table converts this reading into ohms or micro-ohms.

Features — Whatever standard is normally used, the reading can be had directly from the meter in a few seconds without any calculations on the part of the operator. The use of a much higher resistance basis for the theoretical zero of the scale, makes readings more accurate. Widening of the low-figure range on the scale (where most pure waters come) makes the instrument more delicate in fine measurements.

Description — An electric eye, which indicates the correct setting, makes it simple for untrained operators to use the instrument accurately. Since it measures only ionizable solids, it can be used equally well with demineralized water produced by the ionizing process. The unit is self-contained in a metal case. Scale 0-15 p.p.m. as Sodium Chloride. Temperature correction scale 64°-190° F. Dimensions are 6¾" x 5" x 2⅝". Operates from 105-120 volt A.C. 50-60 cycle line. Requires no batteries or accessories other than conductivity cell. Metal conversion table is permanently attached to side of instrument. For use with glass dip cell, rubber dip cell or threaded cells.

THE BARNSTEAD STILL & STERILIZER CO., INC., Dept. FP, 2 Lanesville Terrace, Forest Hills, Boston 31, Mass.

When inquiring specify FP6922 — see handy form pages 2-3

A new BJ sanitary food process pump

AN UNUSUALLY COMPAC EASY-TO-CLEA
SELECTIVE SPEED CENTRIFUGAL PUM

Food evaporation processes that operate under high vacuums and boiling temperatures impose exacting sanitary and mechanical requirements on pumping equipment. The new BJ Sanitary Food Process Pump meets those requirements squarely. We are pleased to offer a more useful and efficient pump to the food industry.

For standard application, pump is mounted on sturdy sheet-metal cabinet containing drive motor. Selective Vee-belt drive provides for flexible adaptation to variable power and speed conditions. Since four swing bolts secure cover to case, discharge nozzle can be rotated to any of four positions. If desired, pump will be sold separately for special mounting.

THESE FACTORS SPELL CLEANLINESS, LOW MAINTENANCE COSTS, AND LONG LIFE

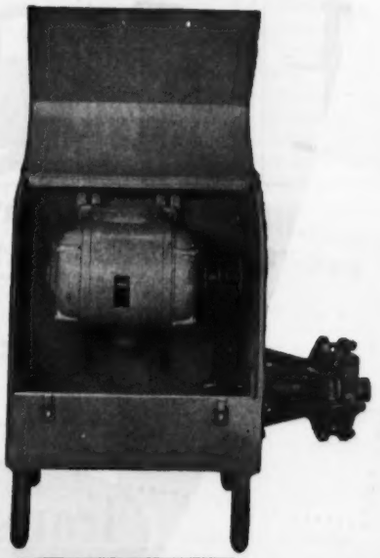
CONVENIENT DISMANTLING AND CLEANING—Pump can be dismantled for cleaning with a few simple manipulations. Case is held by four swing bolts, impeller by a simple bolt threaded into impeller hub.

MECHANICAL SEAL—A simple, water-cooled-and-lubricated seal assures a trouble-free, easily cleaned stuffingbox.

STANDARD SANITARY FITTINGS—Suction and discharge nozzles are machined to receive standard sanitary fittings.

STAINLESS STEEL—All parts that contact pumped liquid are of polished 18-8 stainless steel.

PRECISION MANUFACTURE—Impeller vanes are carefully hand-finished and impeller is balanced before assembly. Grease-lubricated single-row radial bearing and duplex double-row thrust are spaced to support shaft without deflection. Special deflector and seal prevent entrance of water and moisture at inboard end. Felt seal prevents entrance of dust or foreign matter at outboard end.



CAPACITY: 20 to 100 gpm
HEAD: 50 to 200 feet
SPEED: Selective

Byron Jackson Co.
LOS ANGELES 54, CALIFORNIA
Offices in Principal Cities

When inquiring specify FP6923 . . . see information request blank, pgs. 2-3

Now! LIFT, MOVE, STACK Materials Electrically with NEW TRANSTACKER

Low price brings modern material handling methods within reach of all!

PRICED AT ONLY $1800 (Some Models Slightly Higher)

NOW for the first time every business—every industry can use modern, money-saving material handling methods at new low cost.

Because in the new Transtacker, Automatic's engineers have developed a high-lift stacker that sells for as low as $1800. And while it will move, lift and stack up to 4000 pounds, it weighs only 1900 pounds. This means you can safely use Transtacker, even if your floor and elevator capacities are limited.

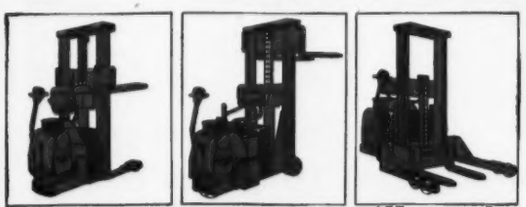
With all the advantages of the famed Transporter that moves any kind of material with amazing "touch-of-your-thumb" ease, Transtacker now gives you an electric hydraulic lift that stacks your product at new heights to increase storage capacity. With finger-tip control it lifts up to 4000 pound loads in a matter of seconds . . . smooth, controlled lowering speed for utmost safety. Mail coupon for facts.

PLATFORM TYPE TRANSTACKER
Capacity 4000 pounds
For stacking unit loads on skid platforms.

OPEN FACE PALLET TYPE TRANSTACKER—Capacity 3000 pounds—With suitable forks for stacking open face pallet loads.

SUSPENDED LOAD TYPE PALLET TRANSTACKER—Capacity 2500 pounds—With suitable forks for stacking double or open face pallets.

STRADDLE TYPE PALLET TRANSTACKER—Capacity 4000 pounds—With suitable forks for stacking double face or open face pallet loads.



Above price applies in U.S. only.

FINGER TIP CONTROLS LOAD
Cartons, crated goods, hard-to-handle material—one man or girl hauls, lifts and stacks to full storage heights.

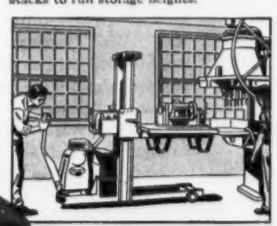
ENORMOUS SAVINGS IN SHIPPING
Pick up merchandise from ground level and deposit it on truck or trailer. A three-man operation becomes a one-man operation.

PRE-TESTED IN INDUSTRY

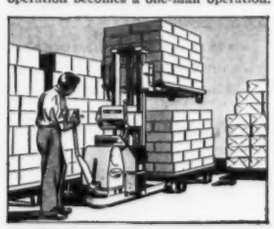
1 Cuts loading and unloading time in half.
2 One man does the work of three with less effort—Transtacker cuts handling costs up to 60%.
3 Light in weight for limited floor and elevator load capacity.
4 Hauls any kind of product with "touch-of-thumb" ease.
5 Gives you extra storage space without added cost.
6 Lifts and stacks product from ground level to trucks and trailers.

LOOK TO THE LEADER FOR ALL THAT'S NEW!

Transtacker — A PRODUCT OF AUTOMATIC — Lightens LIFE'S LOADS



LIFTS HEAVY MACHINE PARTS
When heavy machine parts must be lifted to working height, let Transtacker safely lift it and place it.



ENDS BACK-BREAKING HANDLING
This can be your trucker—easily, efficiently stacking your material with Transtacker. Extra storage space is yours free.

AUTOMATIC TRANSPORTATION COMPANY
DIV. OF THE YALE & TOWNE MFG. CO.
73 West 87th St., Dept. T, Chicago 20, Illinois

Please mail me without cost or obligation, complete facts about the NEW TRANSTACKER.
( ) Have an A.T.C. Specialist call and survey my material handling costs.

Company Name.....
By.....*Position*.....
Street Address.....
City.....*State*.....

—When inquiring specify FP6924 . . . see information request blank, pgs. 2-3—

Instruments

Portable Circuit Tester Has 52 Voltage and Current Ranges

Unit is portable — makes simultaneous measurements of A.C. voltage and current

Uses — Designed especially for use in industrial, electric power, laboratory testing and analysis, this test set, Series 856-J, has wide application in the fields of railroad communications, power installations, electrical maintenance, electrical engineering, and manufacturing, radio as well as for use in school and university labs.

Features — Series 856-J affords the added advantage of making possible simultaneous measurements of A.C. current and voltage with independent readings on the separate meter dials. Accuracy is 3% on D.C., 3% on A.C. current, 5% on A.C. voltage.

Description — The 856-J, (One of the various Precision Circuit Testers which encompass a complete line of A.C.-D.C. test instruments) is a unit combination of the Precision Series 856 and Series "J". This portable combination provides an exceptionally wide selection of 52 A.C.-D.C. voltage and current ranges to meet the requirements of all the above-mentioned fields. The A.C. current unit incorporates an internal heavy-duty current transformer designed for operation on 25 cycles and higher. Two 4½" full vision meters are provided. The 856 meter has 50 microamperes full scale sensitivity and provides calibration at both 20,000 and 1,000 ohms-per-volt at the flip of a switch.

PRECISION APPARATUS CO., INC., Dept. FP, 92-27 Horace Harding Blvd., Elmhurst, N. Y.

When inquiring specify FP6925 — see handy form pages 2-3

★

Potentiometer — Pyrometer Uses No Galvanometer or Millivoltmeter

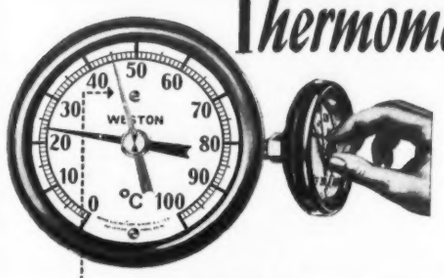
Operates from conventional thermocouples or radiation thermocouples. Interchangeable subassemblies standardized for easy maintenance

Uses — This indicating, recording and controlling instrument operates from a thermocouple or from any source of D-C potential which varies through at least 10 millivolts full scale range. Conventional thermocouples are used for temperatures up to 3000° F. For temperatures above 3000° F. and for moving objects above 1500° F. radiation type thermocouples are used.

Features — The electronic potentiometer-pyrometer has no continuously moving or vibrating parts in its measuring circuit and records one or two temperatures on a 12" diameter uniformly graduated chart and indicates on a 29" bold scale which encircles the recording chart. Trouble-free service and a minimum of maintenance are insured by the elimination of galvanometers, millivoltmeters and all continuously moving or vibrating mechanisms from the measuring system. Only the recording chart moves continuously. This instrument is said to be an effective controller for temperature since its inertia free electronic detection and high speed motor system instantly respond to keep the measuring circuit in continuous balance. Its accuracy, stability and permanence of calibration are credited to the use of the null balance principle. A single unit may be furnished with two controllers operating from two entirely separate measuring circuits all

NEW all metal WESTON

MAXIMUM-MINIMUM Thermometer



RED INDEX shows the highest or lowest temperature reached!

Simply swing the red index to the low side of the temperature pointer, and the index will move to the *lowest temperature reached*, and *remain there* until manually reset. For *highest temperature* record, simply swing the red index around to the high side of the pointer.

The index movement in no way impairs the guaranteed high accuracy of the WESTON Thermometer.

Thus the WESTON Maximum-Minimum Thermometer provides, at only slightly above ordinary thermometer prices, a means of obtaining high or low temperature records on equipment or processes where these extreme temperatures are critical. Ideal for transformers, sterilizers, ovens, chemical equipment, food processing, etc. For complete information, consult your nearest WESTON representative. WESTON ELECTRICAL INSTRUMENT CORPORATION, 618 Frelinghuysen Avenue, Newark 5, New Jersey.

When inquiring specify FP6926 — see handy form pages 2-3

Steinlite is ACCURATE in Making Moisture Tests

Special 40 gr. STEINLITE One Minute Moisture Tester

Accuracy is a prime factor in moisture testing . . . and the Steinlite one-minute moisture tester is consistently accurate. Built by a pioneer staff of radio engineers . . . operates on the radio frequency impedance principle . . . calibrated against the official method for each product. There are more Steinlites in use than all other makes of electrically operated moisture testers combined.

Steinlite is compact, light and portable. It is economical to operate . . . consuming no more electricity than a 40-watt bulb. It is successfully used on grain, pop corn, nuts, cocoa, dehydrated eggs and scores of other products. Sold on 10-day free trial basis. No money down.

SEEDBURO EQUIPMENT COMPANY

636 Brooks Building Chicago 6, Illinois

When inquiring specify FP6927 — see handy form pages 2-3

housed in the same recorder casing. This arrangement permits double the number of recorder controllers to be included in a given panel space. Recorders are made up of a number of interchangeable sub-assemblies standardized so that only a few spare parts need to be carried in stock to provide replacement parts for a large number of electronic instruments. Both the electronic amplifier unit and the a-c d-c converter are mounted in die-cast housings which plug into the rear of the recorder casing.

Description — The d-c potential of the thermocouple or other primary element is balanced against a conventional potentiometer circuit employing the usual battery source of d-c voltage and a standard cell with manual standardization. Instead of galvanometer or millivoltmeter the instrument circuit employs a d-c to a-c converter and an electronic detector, to measure potentiometer unbalance. A reversible electric motor which drives the indicating, recording, and controlling features moves only when the potentiometer network tends to become unbalanced because of a change in the factor being measured. Conversion of d-c potential to a-c is accomplished by special saturable core reactors which are similar in construction to transformers in that they contain no moving or vibrating parts. Recorder-controllers are furnished for air-operated control systems, on-off electric control systems and throttling type electronic control systems. The instrument is equipped with a control dial by which the set point may be manually adjusted to any desired temperature. This arrangement is used for the on-off electric and throttling electronic type controls. Air-operated control systems are provided with an indicating pointer which uses the recording chart as a scale for indication of the set point. The set point may be changed by simply opening the meter door and turning a convenient knob. Operation is from 115 volt, 50 or 60 cycle AC power supply. A 16-page Bulletin No. 232, "Bailey Pyrotron Electronic Potentiometer Pyrometer" describes and illustrates various indicating, recording and controlling combinations, gives performance data, and outlines principle of operation. Available on request.

BAILEY METER COMPANY, Dept. FP, 1050 Ivanhoe Road, Cleveland 10, Ohio.

When inquiring specify FP6928 — see handy form pages 2-3

★

Ammeters and Voltmeters Have Minimum Pointer Oscillation

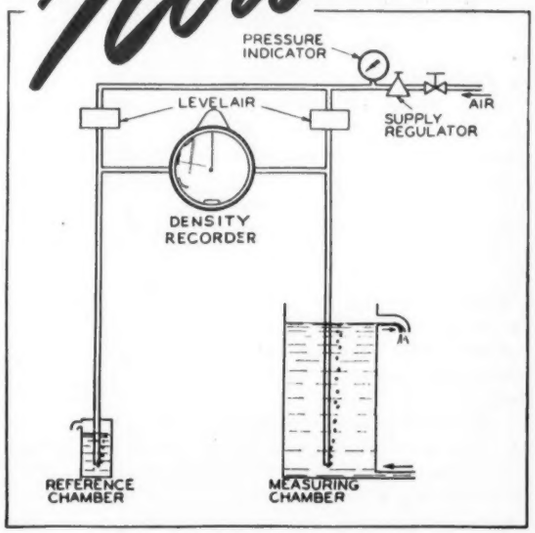
Direct current moving vane type meters have exceptionally long easy to read scales

Uses — For automotive, marine, tractor, diesel engines, and battery chargers as D. C. volt meters and ammeters. *Features* — Pointer oscillation is reduced to a minimum by the high torque lightweight movement incorporated in the design. Sharply defined numerals and graduations are lithographed on the warp-proof color fast metal dials. Extra long 80 degree type scale leads to greater accuracy. *Description* — Dials are available either with black characters on a white background or with white characters on a black background, and they have scale lengths of 80 degrees of arc on the center zero types and 60 degrees of arc on the zero off center types. Full information is supplied by the manufacturer on request.

UNITED STATES GAUGE DIVISION OF AMERICAN MACHINE AND METALS, INC., Dept. FP, Selersville, Pa.

When inquiring specify FP6929 — see handy form pages 2-3

Now . . .

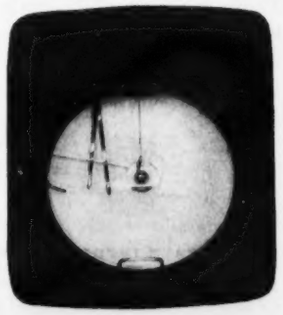


Continuous Automatic DENSITY RECORDING and CONTROL

Here's an engineering development that can substantially improve your production. Installed on processes where liquid density of raw materials or products is an important factor, Foxboro Density Instruments automatically measure and record with high accuracy . . . even for flowing liquids. For many applications, Foxboro Controllers also are available to hold density uniform, automatically.

Foxboro Density Instruments are permanent installations requiring no fragile glass hydrometers. They continuously record density on open-scale charts easily read to small values. May be calibrated in specific gravity or other scales.

Write for detailed Bulletin A-264. **The Foxboro Company, 174 Neponset Ave., Foxboro, Mass., U. S. A.**



Foxboro Liquid Density Controller automatically corrects variations.

FOXBORO

INDICATING • RECORDING • CONTROLLING INSTRUMENTS

When inquiring specify FP6930 — see handy form pages 2-3

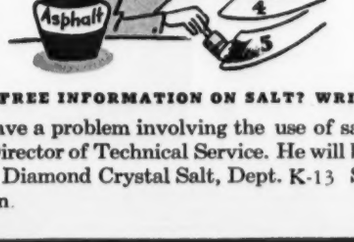
IMAGINE YOU
WEARING AN ASPHALT RAINCOAT!

● Probably you'd look terrible. But one thing is sure—you'd stay *dry!* Asphalt keeps out moisture. That's why we use asphalt in our bags to help keep Diamond Crystal Salt dry, and prevent caking.

Salt usually cakes when exposed to excessive humidity. Moisture condenses on salt particles, forming a thin layer of brine. Then, in dry weather, the brine evaporates and the crystals knit together.

Our research laboratory has found a number of ways to help prevent salt caking. Removal of moisture-attracting impurities, such as calcium chloride, helps. So does complete removal of fines by careful screening. Most important is to provide salt with a moisture-vapor-resistant package.

Take our Flour Salt bag, for example. It is composed of three 50-lb. and two 25-lb. sheets of kraft, laminated together with 40 lbs. of asphalt per ream. That's a lot of asphalt, and it costs us more money—but our moisture-vapor transmission tests show this bag is worth it. The bag is even sewn with *waxed thread* to seal the holes made by the sewing-machine needle. That's real *protection*—one reason we have been able to eliminate caking as a major problem!



WANT FREE INFORMATION ON SALT? WRITE US!

If *you* have a problem involving the use of salt, write to our Director of Technical Service. He will be happy to help! Diamond Crystal Salt, Dept. K-13 St. Clair, Michigan.

DIAMOND CRYSTAL
ALBERGER PROCESS **SALT**

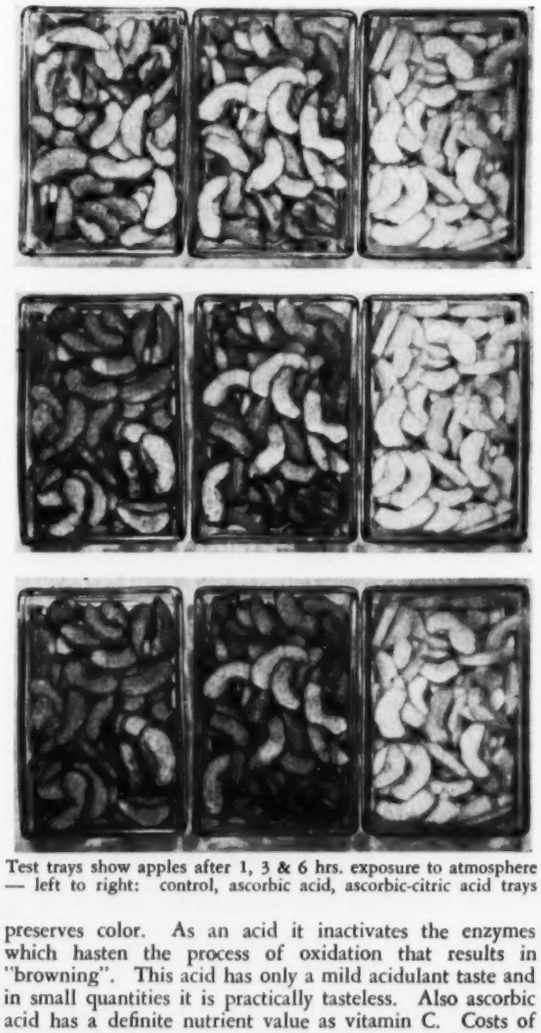
When inquiring specify FP6931 — see handy form pages 2-3

New Materials

Use of Ascorbic and Citric Acid In the Quick Freezing of Fresh Fruits Aids Storage and Flavor

Citric acid reduces amount of ascorbic acid needed

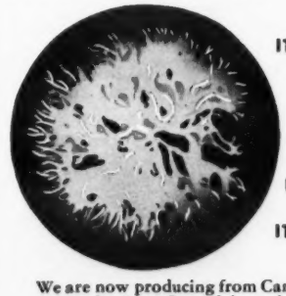
Uses — The use of ascorbic acid in combination with citric acid in the quick-freezing of apples, apricots and peaches will result in a product of superior flavor and appearance and with longer lasting storage qualities than packs processed with the use of either acid alone and at reduced cost.
Features — As an antioxident, ascorbic acid protects the fruit from the action of the oxygen of the air and thus preserves color. As an acid it inactivates the enzymes which hasten the process of oxidation that results in "browning". This acid has only a mild acidulant taste and in small quantities it is practically tasteless. Also ascorbic acid has a definite nutrient value as vitamin C. Costs of the use of this material have been brought in line with fruit economics. Citric acid is a logical choice in the adjustment of acidity of the fruit to be treated because it is fruit packs actually improves the flavor. Important also is the fact that it reduces the amount of ascorbic acid required to prevent browning ½ to ¼. Bulk tasting tests demonstrated that packs of frozen apples, peaches and apricots were selected that contained varying amounts of citric acid over packs containing no citric acid and identical amounts of sugar and ascorbic acid. In combination with ascorbic acid the use of citric acid resulted in frozen packs of apples, peaches and apricots of superior appearance after long storage periods as compared to packs containing twice the quantity of ascorbic acid alone.
Description — A mixture containing 4% ascorbic acid U. S. P. and 96% citric acid anhydrous has been prepared. When used in the amount of 0.5% per pound weight of fruit, enough citric acid is added to inactivate the enzymes, in addition to 90 mg. per pound of ascorbic to resist oxidation and the resulting browning. A slightly smaller quantity is required in freezing apricots, although the amount required in each case is determined by the variety and maturity of the fruit. The ascorbic acid — citric acid mixture may be mixed with dry sugar, if a dry sugar pack is processed, or, in the case of a sugar syrup, may be dissolved therein accordingly. In contact with the oxygen of the air, certain peeled or fresh cut fruit darken rapidly in the presence of their enzymes. It is believed that the enzyme oxygenase catalyzes the auto-oxidation of certain



Test trays show apples after 1, 3 & 6 hrs. exposure to atmosphere — left to right: control, ascorbic acid, ascorbic-citric acid trays

Something New Under the Sun

...A UNIVERSAL COLLOID AGENT



IT THICKENS...
IT GELS...
IT EMULSIFIES...
IT STABILIZES...
IT SUSPENDS...

We are now producing from Carragheen two new improved types of gelose. One of them should be the answer to your emulsifying, suspending, thickening or stabilizing problems.

KRIM-KO GEL is an all-purpose colloid-assistant. Properly used, it has been proved effective in many of the most exacting food, pharmaceutical and industrial applications.

CARRAGAR is an agar-type gelatin which forms tender, fruit-like gels over a wide pH range. It does not require acidulation to produce desired results.

Send for free liberal working samples for experimental use.

When inquiring specify FP6932 — see handy form pages 2-3

a naturally-occurring fruit acid and its addition to frozen compounds of the catechol-tannin group present in the fruit. This oxidation results in the formation of dark colored substances, the production of which is observed by the browning of the fruit. In the process of freezing fresh fruit, blanching is employed to inactivate the enzyme and preserve the appearance, but this results in a cooked rather than a fresh flavor. It has been found that the enzyme oxygenase in such light-colored fruits as apples, apricots and peaches, may be successfully inactivated by reducing the acidity of the fruit to a range of pH 2.0 to 3.0. In this activity range the ascorbic acid is stabilized and is thus able to act primarily as an antioxidant, so that smaller quantities will yield the same or superior protection against browning as the larger amounts heretofore employed. For frozen fruit with sugar, mix from one half to one level teaspoonful for each pound of fruit with the sugar added. Add three-quarters of the sugar mixture to the top of the fruit before sealing the container. In fruit frozen with syrup dissolve from one half to one level teaspoonful for each pound of fruit in the syrup. Add three-quarters of the syrup to the fruit and mix thoroughly. Pour the remaining one-quarter of the syrup over the fruit before sealing the container. In the preparation of fresh cut fruit, for each pound dissolve from one half to one level teaspoon of the mixture in one quarter of a cup of water and pour over the fruit, then mix thoroughly. This mixture is especially recommended for treating fresh cut apples, peaches, apricots, bananas and similar fruit. Further details may be had on application to the company.

CHAS. PFIZER & CO., INC., Dept. FP, II Bartlett St., Brooklyn 6, N. Y.

When inquiring specify FP6933 — see handy form pages 2-3

★

Coating Permits 10° to 40° Cooler Space Under Summer Roofs by Reflecting 75% of Rays

Increases weather protection — adds to roof life

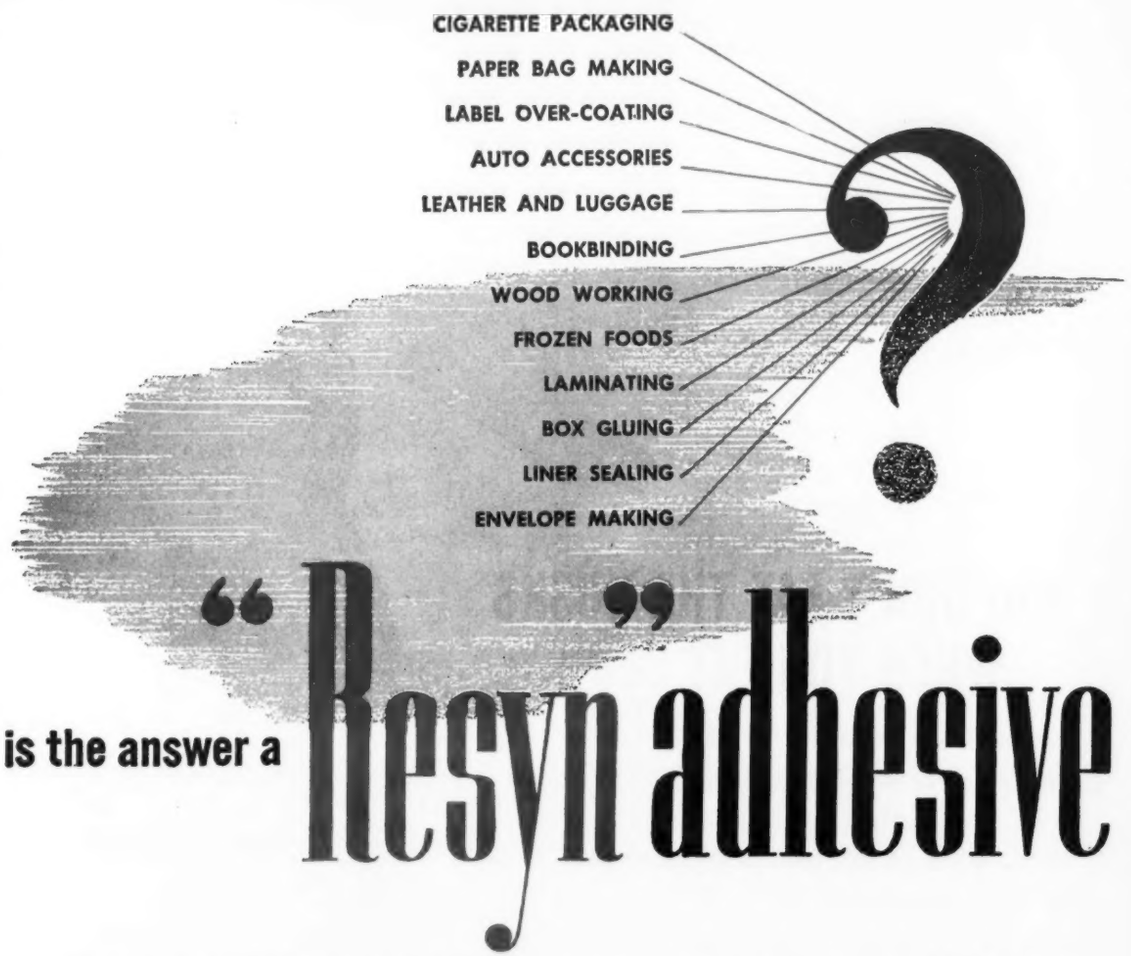
Uses — As a protecting coat for roofing against the heat of summer sun.

Features — The non-porous, metallic coating offers substantially increased weather resistance to the roofing materials it is used with. High grade roofing oil present in this preparation penetrates the felts of a roof and checks the drying out process adding years to the life of the roof. No special tools or equipment are required for application. It spreads smoothly and bonds well to roofing felts, composition, tar and gravel, slag, asphalt, concrete and built up roofs. Applied over a roof this coating becomes in effect a gigantic mirror, reflecting 60% to 75% of the heat rays falling on it.

Description — This composition is composed of extra large flakes of pure aluminum (2 to 3 times the size of ordinary flakes). They are suspended in a special, high grade liquid vehicle. As the coating is applied, these flakes float into position, overlapping each other and building up layer upon layer. Flakes and layers are cemented together by the oil vehicle into one continuous "aluminum sheet". The result is a solid, thick metallic coating without seams, cracks, laps or holes, bonded to the roof. Detailed information may be supplied.

THE UPCO COMPANY, Dept. FP, 4805 Lexington Ave., Cleveland 3, Ohio.

When inquiring specify FP6934 — see handy form pages 2-3



"?" is the answer a "Resyn adhesive

Each "RESYN" Adhesive is a complex blend that is designed to do a specific job exceedingly well. Many amazing developments have resulted from applying them to packaging, converting and assembling operations previously thought to be at their highest level of efficiency.

Why? Because "RESYN" adhesives provide higher resistance against all forms of moisture and temperature variations. They're vermin-proof, mould-proof, age-proof. They're economical. They increase production speeds, reduce supervision, offer greater versatility, spread and penetrate uniformly, and bring increased sales advantages to many products.

What are some uses? *In bag making:* for difficult stocks . . . breather action . . . moisture vapor barrier. *In luggage making:* for softness and pliability . . . resistance to fungus . . . laminating before shaping under heat and pressure. *In chemical packaging:* for all-purpose, all-weather labeling and overcoating on wood, fiber, painted steel, tin and glass. *In upholstering:* for adhering cloth to cloth, chipboard, wood, metal, wadding, etc.

A whole new world of uses is opening up for "RESYN" adhesives. They're readily available. So get acquainted with their types, properties, uses. All are quickly summed up by National Adhesive in an interesting booklet: When and How to Use "RESYN" Adhesives. Write for your copy — NOW!

Dunellen Plant

Offices: 270 Madison Avenue, New York 16; 3641 So. Washtenaw Avenue, Chicago 32; 735 Battery Street, San Francisco 11, and in other principal cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto. In England: National Adhesives, Ltd., Slough.

National ADHESIVES

EVERY TYPE OF ADHESIVE FOR EVERY INDUSTRIAL USE

When inquiring specify FP6935 . . . see information request blank, pgs. 2-3

YOU DON'T EAT THE HUSKS WHEN YOU EAT CORN

because Corn Husks are *not* what you want. So in seasoning your food products, why load them with hulls, sticks, impurities and unsightly waste materials when all you want is the *true* SPICE FLAVOR of natural spices?

In Stange's Cream of Spice Seasonings, through our exclusive process of extraction, you get a product containing *ALL* the essential oils and aromatic oleo resins of the natural spices, concentrated in an easy-to-use form,—with all foreign matter disposed of.

C.O.S. (Cream of Spice) Seasonings have TRUE spice flavor—with a uniform Degree of Strength.

To get TRUE spice flavor — use Stange's C.O.S. Seasonings.

Stange's CREAM OF SPICE

· WM J. STANGE CO. ·
2532 W. Monroe St., Chicago 12, Ill.

SEASONINGS

When inquiring specify FP6936 . . . see information request blank, pgs. 2-3

Materials

Filter Medium Has Efficent Capillary System

Resists most process corrosives and mechanical action and may be used for constructing beds

Uses — For filtration, aeration and agitation in the chemical and related industries.

Features — This material is chemically inert and is unaffected by those chemicals which do not attack silica. Organic and inorganic acids and corrosive liquids requiring filtration in commercial processes in general have no action on the filter medium. Filtrates are obtainable without contamination with foreign matter, particularly metals. It will withstand all the ordinary mechanical stresses and abrasions of commercial processes.

Description — This material is a white, rigid, porous, mineral substance composed essentially of silica. Basic material from which it is made is high grade natural sand, averaging 99.6% silicon dioxide, that is graded by mechanical screens. Bonding agent employed is a synthetic silicate, fusing at temperatures above 2000° F. Microscopic examination of the material will show a practically uniform structure throughout and will indicate a structural condition analogous to a mass of capillary tubes which take a tortuous rather than a direct path through the material. Many varied shapes of this filter medium are available and tank installations are easily laid.

FILTROS INCORPORATED, Dept. FP, Rochester, N. Y.

When inquiring specify FP6937 — see handy form pages 2-3

★

Invert Sugar Pumps Like Water; Saves Time, Cost of Bagging

Research suggests wide application in food, drug, cosmetic industries

Uses — Invertase (inverted, or highly crystallized sugar) is used in the preparation of ice cream, also certain beverages, baked goods and food products. This material is believed to have bright future in the food field, where statutory restrictions may prohibit use of chemically treated ingredients in commercial products. Principal function: to hydrolyze common sugar or sucrose in aqueous solution into mixture of glucose and fructose. Also known as saccharase or sucrase, invertase plays a part in the breakdown of other sugar-like compounds. Its plasticizing qualities suggest use in certain drugs and cosmetics where an inexpensive material possessing hygroscopic and viscous qualities of glycerol is required. May also prove useful in paper manufacture.

Features — Invert sugar has less tendency to granulate than sugar solutions. It pumps as easily as water. During wartime, when shipping space was at premium, thousands of extra tons of West Indian sugar, converted to invert sugar solutions, were shipped by tanker to continental chemical plants for manufacturing industrial alcohol. This saved time and cost of bagging and handling raw bulk sugar. Use of invertase where acid hydrolysis is impractical may have advantage in safety, economy and simplified equipment possible in enzymatically inverting sucrose.

Description — This enzyme is distributed widely in nature in living cells of fungi, plants, fruits, invertebrates and higher animals. Involved in manufacture of wines, distilled and malted beverages since pre-historic times. Yet,

this enzyme has never been prepared in chemically pure state and many unsolved problems remain concerning its mode of action. Under ideal temperature, pressure and pH, invertase is extremely active, transforming one million times its weight of sugar without appreciable loss of activity. Yeast variety attacks the fructose (levulose) end of the sugar molecule, while the other variety, taka-invertase, acts on glucose portion. Classified as endo-enzyme, the type of enzyme in which the active principle is an integral part of cell structure rather than a lyo-enzyme, where active principle is a product secreted by the cell. Conversion seems to result from temporary combination of the enzyme with the substrate, enzyme remaining unchanged while substrate is transformed. Specificity of the enzyme is of interest to biochemists since reactions appear to be closely related to basic life processes and the chemistry of plant and animal metabolism. There is possibility that other sugar-active enzymes are related to invertase, i.e.: phosphorylase, which also can split sucrose. No practical method is known for reuniting dextrose and levulose into sucrose with invertase.

SUGAR RESEARCH FOUNDATION, Dept. FP, 99 Wall St., New York 5, N. Y.

When inquiring specify FP6938 — see handy form pages 2-3

★

Coating Seals Refractory Walls, Leaves no Foothold for Slag

Recommended for gas, oil, coal-burning kilns, lehrs and casting furnaces

Uses — Imparts tough, glassy, continuous interior surface to unprotected refractory walls, plugging open pores and joints for prolonged periods. Can be used in furnaces burning gas, oil, hard or soft coal, coke, powdered fuel, coke breeze or wood. For boiler, heat treating, marine boiler, slab heating and forging furnaces; soaking pits, annealing ovens, casting furnaces, lehrs, kilns. Manufacturer recommends for large or small furnaces, high or low temperatures, continuous or intermittent operations.
Features — Unprotected pores and joints in refractory walls leave footholds where slag gathers. Since slag and brick have different expansion coefficients, cracks are formed in this manner. Firemaster coats refractory walls with a glass-like, seamless monolithic lining which leaves no foothold for slag, reflects heat back into furnace rather than allowing it to escape through unsealed air-leaks. Also prevents infiltration of gases from without. Furnace may be operated at normal temperatures immediately after applying. Application by spray-gun or paint brush, 1/16" coating. Prevents spalling. Greatly reduced brickwork maintenance. Improves combustion and economy, gives greater BTU output. Prolongs refractory life, less expensive than wall repair jobs. This material may be used on any refractory wall exposed to temperatures from 1200 to 3000 degrees F.
Description — Fuses under heat at regular furnace operating temperature. Furnace should be fired immediately after applying. Packed in 5-gallon cans, ready to use. One gallon covers 30-35 square feet. Slagged or dirty walls must first be scraped or wirebrushed. Made in variations vitrefying from 1000 to 3000 degrees F. Write for Bulletin No. 463.

GAMLEN CHEMICAL COMPANY, Dept. FP, 1469 Spring Garden Ave., Pittsburgh 12, Pa.

When inquiring specify FP6939 — see handy form pages 2-3

The Answer is one of 11 reasons Why You Should Use

MM&R SPICE OILS for MODERN FLAVOR CONTROL

THERE'S always the danger of dry spices molding due to accidental wetting or high humidity. But *liquified* spices are not subject to mold! MM&R Spice Oils and Spice Oil Mixtures are bottled and sealed under laboratory control . . . provide wholesome flavor without any danger of product contamination.

And that's not all — highly concentrated Spice Essential Oils are more economical...insure uniform distribution of flavor without color disturbance.

These are just a few of the 11 reasons why more producers of food products are switching to Spice Essential Oils . . . *The MM&R brand*, pacesetter in the field of Spice Oils for the food industry.

1. Uniformity of quality and flavoring
2. No color disturbance
3. Less bulk in storage
4. Less weight in shipping
5. No danger of molding
6. No loss by exposure in package while being stored
7. No starch introduced into your product
8. Ease of handling
9. Less cost as compared to equivalent spice value
10. Entire flavor available immediately
11. Elimination of the possibility of dust and dirt

Send for "Table of Equivalents" Showing Comparative Flavoring Strengths of Whole Spices and Spice Oils

MAGNUS, MABEE & REYNARD, INC.
SINCE 1895 . . . ONE OF THE WORLD'S GREATEST SUPPLIERS OF ESSENTIAL OILS
16 DESBROSSES STREET, NEW YORK 13, N.Y. • 221 NORTH LASALLE STREET, CHICAGO 1, ILL.
Los Angeles: Brown Corp. • Seattle, Portland, Spokane: Van Waters and Rogers, Inc. • San Francisco: Braun-Knecht-Heimann Co. • Canada: Richardson Agencies, Ltd., Toronto

When inquiring specify FP6940 . . . see information request blank, pgs. 2-3

CLEANING "KNOW-HOW" SAVES PLENTY!

When you use the right cleaner and the right method on any food plant cleaning job, you not only get faster, more thorough cleaning, but the elimination of needless "elbow grease" insures minimum cleaning costs.

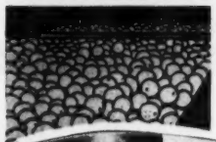
Even More Important

the specialized cleaner and method prevent damage to equipment and surroundings which wrong cleaners or methods tend to cause. These damages often amount to many times the annual overall costs of a cleaning operation.

For the complete "know-how" on every food plant cleaning operation, use

THE MAGNUS FOOD PLANT CLEANING HANDBOOK

compiled for your type of plant.



Write for as many copies of each as you can use in your plant.

1921-1946 25 YEARS OF SERVICE

MAGNUS CHEMICAL COMPANY
173 SOUTH AVE., GARWOOD, N. J.

MAGNUS Food Plant Cleaners

When inquiring specify FP6941 — see handy form pages 2-3

Materials

Baking Pan Cleaner Saves Time, Cleans more Pans Per Tank Load

Find formulas adaptable to vat cleaning or power washing of many tinned metals

Uses — Developed primarily for baking industry to clean pie plates, bread and cake pans, formulae 1934-B (for power washing machines) and 1934-BT (for vat or soak tank cleaning) have been found useful for cleaning many other tinned metal surfaces. Also available are formulae 1930-MS (for removing carbon, grease and dirt from walls and ceilings in vicinity of baking ovens) and 1930-CW (a car washing compound for removing oil and road film from trucks).

Features — Formulae "B" and "BT" are free flowing, highly soluble and free rinsing in hot or cold water. Harmless to hands and clothing. Both reduce cleaning time, clean more baking pans per tank load of solvent. Will not cause "spangling" of tinned surfaces or removal of oxide built up by baking greased pans to prevent sticking. In vat cleaning, "BT" cleans pans nested, meaning more pans per tank load: several tank loads may be cleaned without changing solution. "MS," for walls and ceilings, is unlike conventional alkali cleaners in that it does not rely on alkali detergents alone but contains chemicals which remove carbon. Low alkalinity assures longer life to painted surfaces. Fast cleaning and economical, requiring as little as one-quarter of the amount necessary in using conventional cleaners. High germ-destroying coefficient is said to eliminate foul odors, even that of urine. "CW," for cleaning trucks and cars, requires as little as one-quarter ounce per gallon of water. In severe cases, heavier concentrations are needed.

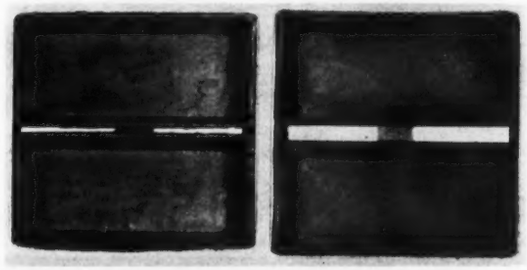


Illustration shows baking pans before and after cleaning

Description — A mild alkali cleaner in powder form packed in fibre, plywood and wooden barrels. "B," for power washing machines, cleans and type baking pans which are cleaned daily after each bake. Add compound to hot water in cleaning solution tank, ¼ to ½ oz. per gallon of water, maintaining solution temperature at about 175 degrees Fahrenheit. In vats or soak tanks, add "BT" 4 to 8 ounces per gallon of water at boiling temperature for fast action. A bakery cooperating in perfecting this formula cleaned six loads, a day's work, without changing the solution. "BT," at a concentration of 8 oz. per gallon of water, has a pH of 10.8 as indicated by a Beckman pH meter. Samples available on trial basis. Data sheets which are available include an interesting treatise on a "Method of Evaluating Alkali Cleaners." Ten 2¼ x 3" panels of cold rolled 20 gauge steel, drilled to permit hanging by a piece of wire, are recommended. Since SAE No. 50 lubricating oil is heavier than that usually found on metal to be cleaned, it was selected as the standard for removal. Panels are first cleaned with Benzol, then Ether,

CARROT OIL

Makes Food Golden Yellow

Vitamin A Activity of Vegetable Origin — No Fishy Flavor — Rich in Anti-oxidants

Carrot oil, like butter, contains carotene. Carrot oil is extracted from carrots, and each pound contains up to 25 million units of carotene, the international standard of vitamin A. Carrot oil is preferred for vitamizing foods because it is a natural vegetable oil, and because it contributes vitamin A of high stability and desirable golden yellow color.

Carrot oil is not synthetic does not contain animals fats of any kind, and does not produce fishy flavor. We manufacture and offer carrot oil in several forms and potencies.

SEND FOR BOOKLET

New 36-page unabridged catalog on carrot oil for foods, feeds, and pharmaceuticals. Chapters devoted to manufacture; carotene characteristics; etc. Important reading for most food processors. Write today!

NUTRITIONAL RESEARCH ASSOCIATES, Inc.
207 Broad Street **South Whitley, Indiana**

When inquiring specify FP6942 — see handy form pages 2-3

Now! A TRULY

Waterproof

MASONRY PAINT!

$2.95 GAL

in 5 gallon cans. Prices slightly higher west of the Rockies.

Now wet walls, leaky walls and moist rooms can be kept dry in all weather! Turesco Waterproof Paint penetrates concrete, stone, stucco, tile, plaster, mortar, brick or cement, forms a hard porcelain-like finish, absolutely impervious to water. Also recommended for exterior masonry surfaces. New, absolutely different, thoroughly proved, Turesco is the waterproof paint you've always wanted. Order today from your Cherry-Burrell Branch or Cherry-Burrell Associate Distributor.

GEARED TO SERVE THE DAIRY INDUSTRY

CHERRY-BURRELL CORPORATION
427 West Randolph Street, Chicago 6, Illinois

Equipment and Supplies for Handling Milk and Its Products

FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 52 CITIES

When inquiring specify FP6943 — see handy form pages 2-3

after which they are placed in an oven to drive off any remaining solvents. They are then dipped into oil and hung over a drip pan, allowed to drain for one hour. Beakers are filled with hot water and charged with the compound to be tested. When vicious boiling stage is reached, panels are immersed, suspended, and allowed to remain for length of time coincident with that of the production line where it is proposed to use the cleaner. If oil is still visible on removal of panels, the true cleaning cycle may be determined by returning panels to the beakers. When all ten panels are clean, total time of cleaning is computed and divided by ten, giving average time required by the cleaner. Dip panels under running water for one minute, into a 3% sulphuric acid solution for 30 seconds, then return them to rinse water for another minute. If no water streaks appear, panels are chemically clean. A double check may be made with aid of a copper sulphate solution. Because of the importance of using metal cleaners which are free rinsing, a test employing panels of plate glass is also recommended. These are immersed in hot cleaning solution at recommended strength for five minutes, then removed, rinsed, and hung up to dry for two hours at room temperature. Panels then are examined for white streaks, absence of which shows cleaner is free rinsing. Milk bottles may be used in place of glass panels. Methods of conducting milk bottle test are described in data sheet. Literature on request.

NIELCO LABORATORIES, 1632 W. Lafayette, Detroit, Mich.

When inquiring specify FP6944 — see handy form pages 2-3

★

Light and Compact, Santocel Makes Ideal Insulating Material

Silica product has good future in rockets, raincoats and refrigerators

Uses — Has wide application as heat or cold insulant, also uses entirely apart from insulation. I.E.: in rubber, Santocel gives strength without discoloring effect or carbon black; in raincoats, prevents stickiness; in furniture coatings, affords dull sheen; in printing inks, prevents pulling the nap off paper. Best field for postwar development, however, seems to be in insulating. Thin-walled, Santocel-insulated home refrigerators yielding about 40% greater capacity per cubic foot of kitchen space occupied have been designed by several manufacturers. Extensive use of material in sub-zero food storage compartments, liquid oxygen tanks and stratosphere chambers. Military applications also include Navy rocket program, aircraft package liners, use in 20 mm. shells, filler compounds for aircraft, radios and radar equipment, unbreakable insulated food containers for army and navy air corps, army air force wheel chocks, cellophane gas capes, army ponchos, marine uniforms and blood serum containers.

Features — Twice as efficient as cork in slowing heat transmission. Less bulky: a handful contains millions of "dead air" pockets. Extremely light, its void space is about 94%, where the void space of ordinary silica gel is 30-50%.

Description — A powdery substance, known technically as silica aerogel. Prepared by drying a colloidal silica gel in such manner that a light, fluffy structure of solid phase results.

MONSANTO CHEMICAL COMPANY, Dept. FP, St. Louis 4, Mo.

When inquiring specify FP6945 — see handy form pages 2-3

ASCORBIC - CITRIC ACID MIXTURE

A MIXTURE OF 4% ASCORBIC ACID U.S.P. AND 96% CITRIC ACID ANHYDROUS

As soon as a fruit is peeled or sliced, it is exposed to the action of atmospheric oxygen. The first result of this exposure is the oxidation of the ascorbic acid (Vitamin C) naturally present, and as soon as this has occurred certain substances also present are next attacked causing the development of a brown color. The rates at which these oxidations take place are also greatly increased by certain enzymes present in the fruit.

Since the ascorbic acid must first be oxidized before "browning" occurs, this latter can be postponed by adding additional quantities of the ascorbic acid and naturally the more that is added the longer "browning" is delayed, although with the enzymes present, to speed up the oxidation, it will eventually occur.

Experimental work carried out in the laboratories of Chas. Pfizer & Co., Inc., has demonstrated that by adding a small amount of citric acid to the fruit the enzymes, which cause rapid oxidation, are inactivated and only a relatively small amount of ascorbic acid need be added to protect cut or frozen fruits against "browning".

Chas. Pfizer & Co., Inc., now has available an ascorbic-citric acid mixture (4% ascorbic acid U.S.P., 96% citric acid anhydrous) which combines the enzyme-inactivating effect of the citric acid with the anti-oxidant effect of ascorbic acid to give better protection against the "browning" of frozen fruits *and at a lower cost.* For further information please inquire of Chas. Pfizer & Co., Inc., 81 Maiden Lane, New York 7, N. Y.; 444 W. Grand Avenue, Chicago 10, Illinois; 605 Third Street, San Francisco 7, Calif.

PFIZER

Manufacturing Chemists Since 1849

BENZOATE OF SODA
BENZOIC ACID

Users of Hooker Benzoate of Soda and Benzoic Acid are true perennials. That's because year after year Hooker has been delivering them the same uniform high quality, non-dusting, free flowing, highly soluble Benzoate of Soda and the same high purity Benzoic Acid.

Specify Hooker and get for your operations, products whose uniform high quality has gained and held the confidence of critical buyers for many years.

Hooker Flake Benzoate of Soda (*U.S.P.*)—because of its non-dusting quality and high solubility, is widely used as a preservative of foods, fruit juices and syrups; as an antiseptic in pharmaceuticals; in medicinal preparations, in tooth pastes and powders.

Use for
CHILI SAUCE
PICKLES SAUSAGES
MINCE MEAT DRIED FISH
CIDER MARGARINE
SODA FOUNTAIN SYRUP

Hooker Benzoic Acid (*U.S.P.*)—a white, crystalline, odorless solid. It is slightly soluble in water and highly soluble in alcohol and ether. As a preservative in alkaline mixtures, Hooker Benzoic Acid is sometimes more suitable than Benzoate of Soda. Its high purity makes it an ideal preservative. Further information on these Hooker chemicals is available upon request.

8507

HOOKER ELECTROCHEMICAL COMPANY
10 Forty-seventh Street
NIAGARA FALLS, N. Y.

HOOKER CHEMICALS

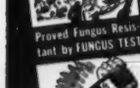
New York, N. Y. Tacoma, Wash. Wilmington, Calif.

When inquiring specify FP6946 — see handy form pages 2-3

LIQUID PORCELAIN-LIKE
DAMP-TEX FOR
WET OR DRY SURFACES
GIVES YOUR WALLS AND EQUIPMENT A PORCELAIN-LIKE FINISH OVERNIGHT

Proved Steam-proof by STEAM TEST

Proved Fungus Resistant by FUNGUS TEST


Proved Lactic Acid Resistant by ACID TEST

Damp-Tex sticks to wet or dry wood, metal, concrete, plaster. Stops deterioration, rust, rot, bacterial and fungus growth*. Will not crack, peel, check, sag or fade. Comes in non-yellowing white and colors. One coat covers. Dries over-night into porcelain-like waterproof film. Will not taint foods.
*Pre-Treated Damp-Tex

SEND FOR DETAILS OF OUR NO-RISK TRIAL OFFER. Your first Damp-Tex is used entirely at our risk. Send for folder G for complete details.

DAMP-TEX
THE WET-SURFACE ENAMEL
STEELCOTE MFG. CO. ST. LOUIS, MO.

When inquiring specify FP6947 — see handy form pages 2-3

Materials

Heavy Duty Alkaline Type Steam Cleaner Aids Rebuilding and Maintenance Work

Low concentration and effectiveness save time and expense

Uses — Cleaning machinery and equipment parts for subsequent repair and overhaul, preparing equipment surfaces for repainting and refinishing, cleaning equipment too large for tank immersion or where suitable tanks are not available and general industrial steam cleaning.
Features — This detergent has thorough and fast steam-cleaning action at very low concentrations. Other advantages include: prevention of scale clogs in steam coils, ready dissolution in hot water, free-rinsing action on all surfaces, safe and pleasant handling without offensive fumes or toxic vapors.
Description — The cleaner is of the heavy duty alkaline type and is specially designed for use in modern steam guns and coil-type steam generating mechanisms. It is a fine gray-white powdered material which dissolves readily in hot water to give a clear, yellow solution. It can be made up with proper care at 8 oz. per gallon, however light to heavy-duty cleaning requires only from ⅛ to 2 ounces per gallon. For stripping certain types of paint, 3 to 4 ounces per gallon will be found effective. Further information may be had from the manufacturer.

OAKITE PRODUCTS, INC., Dept. FP, 22 Thames St., New York 6, N. Y.

When inquiring specify FP6948 — see handy form pages 2-3

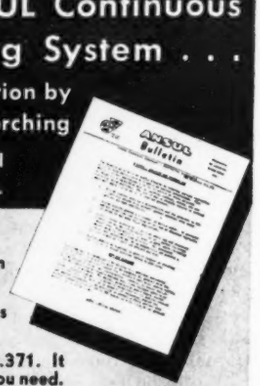
★

Calgon Cuts Corrosion and Scale In Coils, Pipes and Boilers

One pound per 60,000 gallons adds 90% to life of iron, steel, zinc, aluminum

Uses — Effective in preventing boiler scale, deposits and corrosion in steam boilers, pipes and heater coils. Widely used in oil refineries, distilleries and breweries, hospitals, institutions. Applicable to textile, leather and food industries. Used in more than 600 municipal water plants.
Features — Greatly reduces rate of metal corrosion. Slightly more than one pound in 60,000 gallons water reduces corrosion rate of iron and steel as much as 90%. Zinc and aluminum react similarly, manufacturer states. Treatment is simple, economical. Harmless in drinking water. Made from food-grade materials. Alleviates troubles of air conditioning systems.
Description — Vitreous sodium phosphate, formerly known as sodium hexametaphosphate. Trade name: Calgon. Properties: adsorption on surface of metals, their salts and oxides. While other materials are readily adsorbed from water solutions, manufacturer says Calgon is adsorbed almost quantitatively from very dilute solutions of the order of 1 ppm. or less, and that result of adsorbed Calgon film on metallic salts and oxides is a much reduced corrosion rate plus other factors. For example, in well water which contains iron, exposure of the water to air or its chlorination will cause oxidation and precipitation of the iron as red iron oxide. Only previous method was to aerate water, thus causing oxidation, then filter off resulting precipitate. Due to adsorption of Calgon on iron oxide, when two parts Calgon are added to each part of

FOR FASTER
BETTER, DEHYDRATION
of
POTATOES, CARROTS, CABBAGE, ETC.
Install an ANSUL Continuous (SO_2) Sulfiting System . . .
. . . and speed dehydration by reducing danger of scorching
Easy and more economical to install and operate.



Prevent Spoilage
Eliminate Surface Oxidation and Discoloration
Reduce "Lumping" of Pieces During Dehydration
Send for this bulletin No. 911.371. It contains detailed information you need.

ANSUL CHEMICAL COMPANY
INDUSTRIAL CHEMICALS DIVISION, MARINETTE, WIS.
Eastern Office: 60 E. 42nd St., New York City

When inquiring specify FP6949 — see handy form pages 2-3

EFFECTIVE INSECTICIDES
West Insecticides have exceptionally high relative killing power when tested by standard recognized methods.

Send for Literature
WEST DISINFECTING Company
42-16 WEST STREET · LONG ISLAND CITY · N. Y. · DEPT A

When inquiring specify FP6950 — see handy form pages 2-3

iron, iron no longer precipitates and water requires no further treatment. Deposits and discoloration will no longer occur. Also eliminates trouble caused by common metallic salt, calcium carbonate. Present in the solution as calcium bicarbonate, heating decomposes the salt, and calcium carbonate is deposited on heated surface in forms of scales. Treatment of one pound Calgon to 100,000 gallons water prevents such formation, even in very hard water at temperatures of 80-90 degrees C. Such applications are called "Threshold Treatment" due to small amount of material used.

CALGON, Inc., Dept. FP, 323 Fourth Ave., Pittsburgh 22, Pa.

When inquiring specify FP6951 — see handy form pages 2-3

★

Coating Resists Acids and Lye Solutions, Brines and Alkalies

Application results in a tough hard elastic finish

Uses — Can be used for coating inside and outside surfaces of concrete, steel wooden tanks used for corrosive solutions, brines, and alkalies. It will protect walls, woodwork or steel structures in food processing plants, wineries and breweries.
Features — This coating will withstand a maximum temperature in air or vapor of 220° F. Maximum submerged temperatures approach 150° F. It will not crack under a temperature as low as 20° below zero F. Application results in a tough, hard, elastic finish, which after air or force drying, is tasteless and odorless.
Description — Application by spraying is recommended, but it may be applied by dipping, flowing or roller coating. A specially prepared formulation is available for baking-on process. Formulation is based on a synthetic thermoplastic resin which because of its low water absorption and inert properties inhibits corrosion. Packaging is in 1, 5, and 10 gallon cans and 55 gallon drums. Descriptive literature is available.

LITHGOW CORPORATION, Dept. FP, 333 W. 40th Place, Chicago 9, Ill.

When inquiring specify FP6952 — see handy form pages 2-3

★

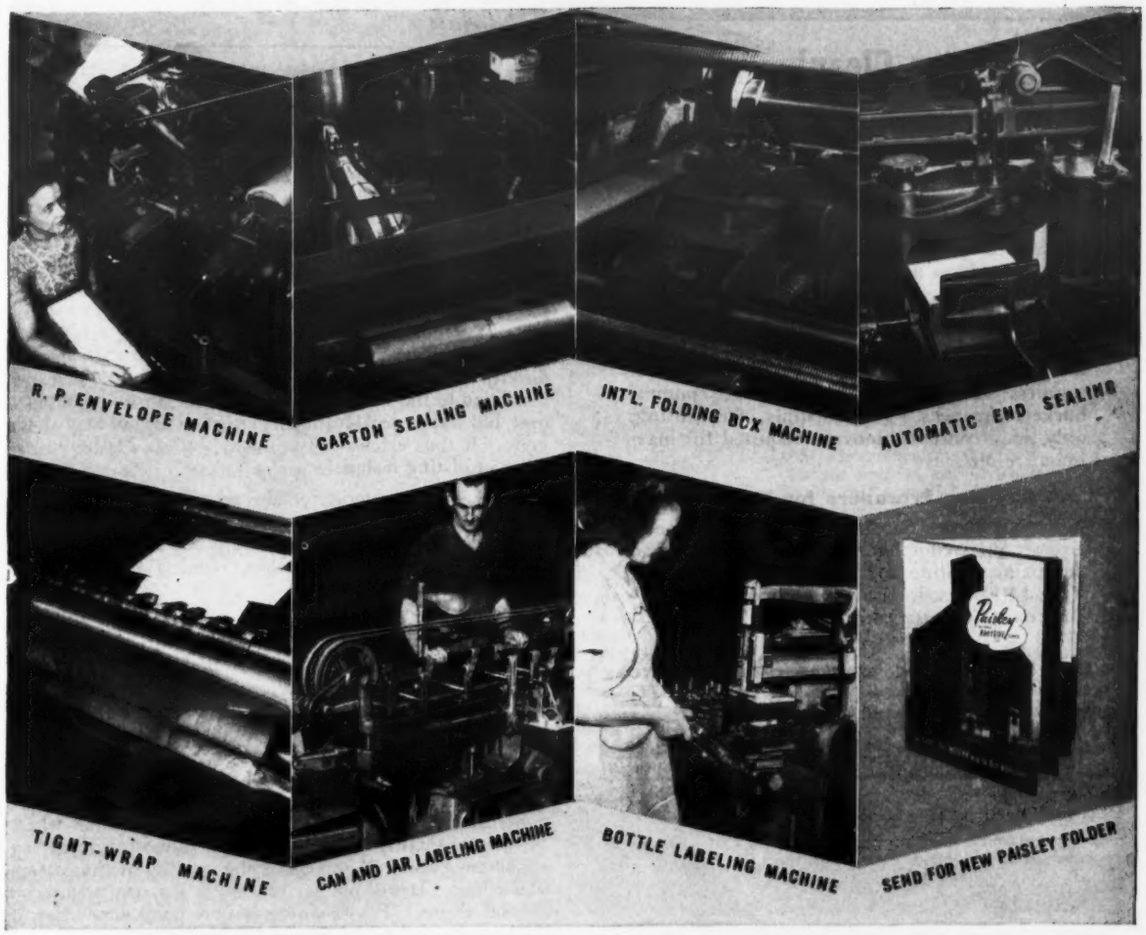
Two B Complex Concentrates Fortify Animal Feeds

Contain riboflavin, casein, folic acid

Uses — Fortification of animal feeds. Supplements manufacturer's general line of livestock and poultry ingredients.
Description — Two riboflavin concentrates derived from natural fermentation process. Riboflavin Mixture No. 1 contains one gram of riboflavin per ounce of material, and has a carrier casein and extracted penicillium press cake. 100 micrograms of folic acid per gram of riboflavin. Riboflavin Concentrate No. 85 consists of 85% riboflavin from a natural source on a casein carrier. Contains 100 micrograms of folic acid per gram of product. For further information, write manufacturer.

U. S. INDUSTRIAL CHEMICALS, Inc., Dept. FP, 60 E. 42nd St., New York 17, N. Y.

When inquiring specify FP6953 — see handy form pages 2-3



YOUR OPERATION DETERMINES THE FORMULA

WHATEVER your adhesive operation "Put it up to Paisley!" Regardless of (1) the type or speed of machine or hand operation; (2) kind of materials to be bonded; (3) type of container surface to be sealed or labeled, or other consideration; you can depend upon our laboratories to develop the *one best* Adhesive for the job. Determining the formula and maintaining absolute quality control in each succeeding shipment, will not cost you one penny more. We invite you to use this *free* Paisley Scientific Adhesive Service. Just send for our Adhesive Operation Data Sheet. It's a very convenient form which you fill in and return. Upon receipt, our skilled adhesive engineers will quickly study your problem and make specific recommendations. If you want *better results* in your gluing or packaging operations, don't wait . . write for your Data Sheet TODAY!

WHEN YOU USE . .

Paisley SCIENTIFIC ADHESIVE SERVICE

PAISLEY PRODUCTS INCORPORATED

Manufacturers of Glues, Pastes, Resin Adhesives, Cements, and Related Chemical Products

1770 CANALPORT AVE., CHICAGO 16, ILL. ★ 630 W. 51st STREET, NEW YORK 19, N. Y.

When inquiring specify FP6954 . . . see information request blank, pgs. 2-3

Faster Cleaning of EGG-PROCESSING UNITS

Get more efficiency out of your chlorine-sterilizing procedures! Clean egg-breaking and drying equipment with fast-acting Oakite Composition No. 63. Removes egg yolk, egg white quickly, thoroughly. Provides the film-free, sanitary surfaces necessary for effective sterilization.

Rapid-emulsifying Oakite Composition No. 63 is safe to use on aluminum egg-breaking equipment. Safe,too, for use on tinned, galvanized, stainless steel or Monel vats, tanks, pumps, buckets or racks. Easy-to-apply, free-rinsing, only small concentrations are required for maximum results.

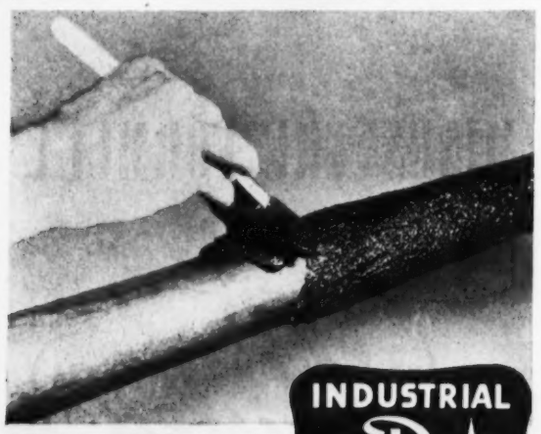
A Cleaning Procedure for Your Plant!

Why not have your local Oakite Representative set up a complete equipment-cleaning and sterilizing routine for your production cycle? This FREE service can save time and money for you. Consult Oakite TODAY!

OAKITE PRODUCTS, INC., 27A Thames Street, NEW YORK
Technical Service Representatives in Principal Cities of the United States and Canada

OAKITE *Specialized* **CLEANING**
MATERIALS · METHODS · SERVICE · FOR EVERY CLEANING REQUIREMENT

When inquiring specify FP6955 — see handy form pages 2-3



COVER PIPES TANKS, WALLS, etc.

INDUSTRIAL NoDrip

Anyone can brush, trowel or spray NoDrip on any clean, dry surface. Goes on like plaster, forms a seamless, protective coating.

STOP CONDENSATION DRIP
NoDrip keeps equipment and floors safe and dry; prevents corrosion of metal and prolongs its life. Acid, alkali and brine resistant. Comes in 1, 5 and 55 gal. drums, ready for use.

TRY NoDRIP
Apply NoDrip to a small area, compare the results with uncovered portions.
Send for free NoDrip Handbook

J. W. MORTELL CO.
532 Burch St., Kankakee, Ill.

When inquiring specify FP6956 — see handy form pages 2-3

Cold Applied Coating Does Not Sag at Temperatures to 600° F.

For concrete, masonry, metal; contains no volatile solvents; effective as vapor seal

Uses — For the protection of concrete, masonry and metal structures from corrosion and deterioration. In addition to being specifically compounded to protect concrete, masonry, etc., it is also effective as a vapor seal over various types of standard insulating materials. Having a high degree of plasticity and strong bonding ability, it is applied directly to the insulating material, or used to bond the insulation to the surface to be protected. It can be applied over old vapor seal coatings that have begun to disintegrate. It thus extensively prolongs the life of the underlying insulating material.

Features — The material contains no volatile solvents, eliminating discomfort to worker, minimizing danger of explosions, fire, when applications are made in an enclosed place. The material is odorless, tasteless and practically incombustible.

Description — This coating, known as "Bituplastic" is a black, irreversible dispersion. When it dries, it forms a tenacious, waterproof film, which does not revert to its original state. In all applications, adequate dry conditions are necessary, but drying time is short. The material can be applied to a very thick film in individual coats either by brushing or with standard spray equipment. The usual application is at the rate of 75-100 square feet per gallon per coat. Because of its rapid drying characteristics, two coats can be applied in a continuous operation where surfaces are fairly large and normal atmospheric drying conditions exist. Of interest is the stability of the coating under heat. It will not sag or flow at any temperature up to 600 degrees F., its disintegration point, nor does it alligator in direct sunlight.

WAILES-DOVE-HERMISTON CORP., Dept. FP, Westfield, N. J.

When inquiring specify FP6957 — see handy form pages 2-3

★

Iron Asphalt Flooring Has Hard Resilient Qualities

Is fire resistant, non-dusting, and sealing

Uses — Provides a dry, warm surface for flooring.

Features — It is sufficiently resilient to absorb shocks of heavily loaded steel wheel trucks, yet hard enough not to allow the same loads to sink in when left standing for long periods. Hard enough to bear the weight of stored raw materials, this flooring will not powder or crack. It is non-dusting, flexible, self sealing and is fire resistant. The coating can be feather edged and easily patched. Flooring with this material can be continued as a cove at walls or around machinery, providing a continuous surface and eliminating dirt pockets.

Description — This coating is monolithic, vermin-proof, odorless, and easy to keep clean. It may be flushed without damage. Full information on this and other products of a similar nature will be furnished on request.

TUFFALT, INC., Dept FP, Pittsburgh 3, Pa.

When inquiring specify FP6958 — see handy form pages 2-3

For Better Shipp

GET THESE FACTS ON

A National Network of Service
28 Producing Plants
Over 50 Distributing Warehouse Points

1. Dry Ice Refrigeration Data Book
2. Dry Ice in Railroad Car Refrigeration
3. How To Use Dry Ice in Meat Shipments
4. Dry Ice in Perishable Shipment
5. Dry Ice in Poultry, Butter and Egg Shipments
6. Red Diamond Dry Ice
7. A Chart of Industrial Uses
8. Protecting the Nation's Market Basket

● *Shipping better* depends largely on the type of refrigeration used. Careful study of available methods will lead you to dry ice — to Red Diamond Dry Ice. It helps many shippers to ship farther with less re-icing—*at lower cost.*

Ask for any or all of these Red Diamond Publications on the use of dry ice in shipping.

THE Liquid CARBONIC CORPORATION
3110 S. Kedzie Ave., Chicago 23, Illinois
Representatives in All Principal Cities of the United States and Canada

When inquiring specify FP6959 — see handy form pages 2-3

STANGARD
Prime Surface
COLD PLATES
For Maximum Refrigerating Efficiency

THE STANGARD-DICKERSON CORPORATION
46-76 Oliver Street · Newark 5, N. J.
STANGARD KNOWS REFRIGERATION

Copyright 1945 by The Stangard Dickerson Corporation

When inquiring specify FP6960 — see handy form pages 2-3

FILTERFAB

FILTER MEDIUMS

For all processing and refining industries.

Whatever your filtering problems are you can look to Filter Fabrics for the scientifically correct solutions.

Tell us your needs. We'll be glad to send prices and full information.

Immediate Deliveries

Filter Fabrics, 1257 W. 4th St., Cleveland 13, Ohio

FILTER ff FABRICS

When inquiring specify FP6961 — see handy form pages 2-3

End detail of No. 251 "Shaf-tite" Wood Roll

"SHAF-TITE" ROLLS solve many roll problems!

The exclusive "Shaf-tite" end construction, strongest wood rolls, plus longer life and lower cost are all features of Rodney Hunt "Shaf-tite" Rolls that insure the solution of many industrial roll problems. Send for catalogue today.

RODNEY HUNT MACHINE CO.

373 MAPLE STREET, ORANGE, MASS.

When inquiring specify FP6962 — see handy form pages 2-3

Floor Coating Combines Priming, Sealing, Oil-Proof Properties

Covers 700 sq. ft. to gallon

Uses — As a coating for concrete, wood and other type floors.
Features — This coating is impervious to oil, grease, gasoline and proof against battery acid, lactic acid, alkali, etc.
Description — Available in six colors in addition to white, black and clear, no scrubbing is necessary and the coating covers 700 sq. ft. to the gallon. No expensive equipment is required for applying. Further information may be had on request.

McGUIRE-WOODLOCK PAINT CO., Dept. FP, 1620 W. Monroe St., Chicago, Ill.

When inquiring specify FP6963 — see handy form pages 2-3

★

Cleaning Compounds And Safety Solvents

Compound designed primarily for aluminum; solvent for bearings

Uses — This emulsifying degreasing compound brightens as it cleans. Prepared ready for use, it contains no free alkalies. Although it may be used on ferrous metals and many plastics, it is blended especially for the degreasing and brightening of white metal alloys.
Description — Parts and surfaces may be dipped in or sprayed with this product, named B-Bex C, then thoroughly rinsed with water. Instant emulsification results. The action of this compound is to dissolve grease and oil, loosen dirt and reduce oxide stains.
Uses — This safety solvent is the first of a series, all of which are water white and characterized by high flash point and freedom from elements of toxicity and corrosion. This initial solvent "G-Sol 95" has been found useful for cleaning of precision bearings, instrument parts.
Description — Flash point, ASTM (Cleveland Open Cup) 195° Min; Fire Point ASTM (Cleveland Open Cup) 200° Min; Color — Water White. Specific gravity — 0.801 to 0.803 at 20° C. Viscosity Saybolt Universal at 100° F. 35 seconds. Residue less than 0.1% on distillation. Corrosiveness — standard Doctor test negative. "G-Sol 195" is available in 5 gallon drums.

GAYBEX CORP., Dept. FP, P.O. Box 3 — C, Nutley, 10, N. J.

When inquiring specify FP6964 — see handy form pages 2-3

AMERCOAT was the choice of a large food processor for controlling corrosion encountered in manufacturing cornstarch. Corrosion from sulphur dioxide fumes was so severe that steel I-beams were often replaced in one year; lime from mortar and concrete hung in stalactites from the ceilings; reel beds and floors which are wetted by starch solution containing two per cent sulphuric acid were dangerously weakened. Several months after application of AMERCOAT (see photo No. 2), no corrosive action was apparent.
This is merely one example of many AMERCOAT applications to combat corrosion. AMERCOAT is also non-contaminative to food products. It can be applied to interior and exterior surfaces of tanks and machinery, as well as concrete floors and walls in all types of food processing plants.
There is an AMERCOAT corrosion and contamination resistant coating to control your specific problem. AMERCOAT is recommended for your use only after a thorough analysis definitely proves its practical value to you.

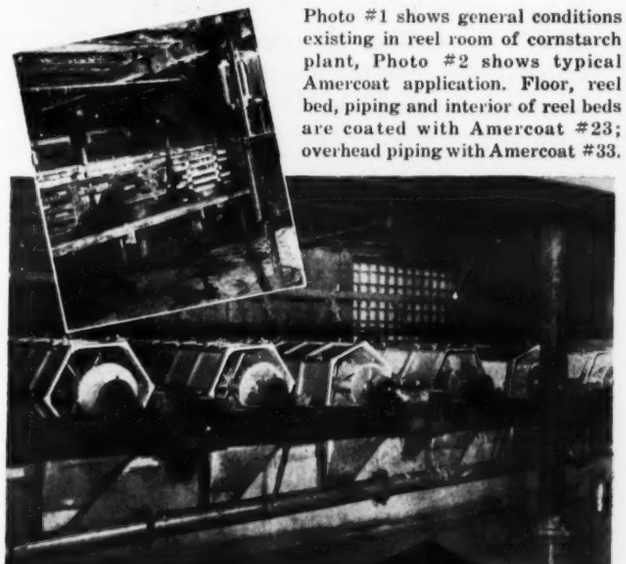


Photo #1 shows general conditions existing in reel room of cornstarch plant, Photo #2 shows typical Amercoat application. Floor, reel bed, piping and interior of reel beds are coated with Amercoat #23; overhead piping with Amercoat #33.

IN THE FOOD INDUSTRY, IT'S

Amercoat

PLASTIC COATINGS

Ask for Booklet 2-E

AMERCOAT DIVISION:
AMERICAN PIPE & CONSTRUCTION CO.
P.O. Box 3428, Terminal Annex, Los Angeles 54, California

When inquiring specify FP6965 — see handy form pages 2-3

Here's the question to ask any fabricator before ordering a built-to-blueprint Stainless Steel vessel.

"How have you equipped your men and your plant to cope with the difficulties that arise in Stainless Steel fabrication?"

Make no mistake about it. Difficulties *do* arise in the welding, forming, cutting of stainless steel. And the life, the corrosion resistance, the efficiency of your processing equipment depend on how well prepared your fabricator is to solve these production problems.

S. Blickman, Inc. has worked with stainless steel since its appearance as an alloy. We have trained our men, and designed our plant to safeguard the qualities of the metal at every stage in fabrication. To be sure of getting maximum corrosion resistance when you specify stainless steel for a processing vessel — consult with us.

S. Blickman, Inc., 810 Gregory Ave., Weehawken, N. J.

S. BLICKMAN, INC.
Guards Alloys in Fabrication
SEND FOR THIS VALUABLE BOOK
CORROSION RESISTANT PROCESSING EQUIPMENT
TANKS • KETTLES • STILLS • HEAT EXCHANGERS • AGITATORS • MIXERS • TOWERS • PIPING

When inquiring specify FP6966 — see handy form pages 2-3

★ IDEAS ★

Industrial ingenuity constantly hatches new ideas, many of which can be applied to similar problems in other plants. The Editors have selected these ideas and developments because of their interest and possible application in specific plant problems. If you would like more information on any of these, write direct to the manufacturers.

Retort Tags Show Completion of Cooking by Color Change

Eliminate possibilities of canner's goods reaching shipment in uncooked state

Retort tag in handy container

Canneries are eliminating the possibility of uncooked materials reaching warehouses prepared for shipping by means of a handy retort tag which indicate by color change whether or not cooking has been completed. The tags may be attached to baskets before cooking. A metal container (shown in accompanying illustration) provides a durable holder for the tags. It is reinforced with wire. The tags may be used as an integral part of the processing procedure. The tags are placed on baskets, utilizing the holder already referred to, at the loading machine and the batch number is entered on the tag. When basket reaches the retort operator adds the retort number. At conclusion of the cook, tag is examined and if green a check mark is placed across the spot. If the tag is still purple or just partially green, the tag is not marked and the basket is detained. Tags may be filed for record. The tags known as "Cook-Chex" tags cost less than one cent each, thus providing protection for each case at a cost of about 1/50 of a cent.

The color change is sudden, complete and visible, from purple to green. The color change takes place after prolonged exposure to moist heat. Dry heat or adverse storage conditions leave the color unchanged.

("Cook-Chex" tags and the novel holders are the product of Aseptic-Thermo Indicator Co., 4665 Hollywood Blvd., Los Angeles, Calif.).

★

Preventing Rancidity In Food By Protective Packaging

Green, black or foil wrappers or containers exclude sunlight from oil bearing foods

The most practical protection against rancidity as caused by undue exposure of oil bearing commodities to sun light is through proper packaging. Special green, opaque black and foil wrappers have proven in the laboratory and in commercial practice to be the most effective means of delaying this form of spoilage. Occasionally oxidative rancidity is catalized by traces of iron or copper even in the absence of light.

Numerous experiments have been conducted both in direct sunlight and in diffused light to learn the relative effect of certain wave-lengths of light on the development of rancidity. Samples of corn oil, cottonseed oil, and lard were irradiated separately with light passing through color filters so chosen that they excluded light in increasing amounts beginning with the blue end of the visible spectrum and continuing until only the red was transmitted. Check samples wrapped with foil, and hence not affected by light, were included in the experiments. The process of oxidation was followed by measuring the peroxide formation which is a test showing the susceptibility of an oil or fat to absorb oxygen from the air.

The experiments yielded the following facts: A — Oxidation was first noted under a clear filter; B — The oils or fats irradiated by light from yellow filters chosen to exclude increasing amounts of blue light seemed to develop peroxides less and less as the blue light was diminished. C — Light from various red filters was less active in causing peroxide formation than the yellows or the blues. D — Light from the green filter, which excluded both the blue and red ends of the spectrum, promoted the formation of peroxides the least. E — All samples under color filters become rancid except those under the green filters, proving that green light delimited by 4900 to 5800 Ang-

PRODUCT OF THE MONTH

MILWAUKEE, WIS. — Allis-Chalmers announces new Remote Indicating and Control Equipment for general industrial use. Offering such exclusive advantages as: instant response without hunting or motorizing; no transmitter back torque; accuracy within ±1°, the new system will have many applications in oil, steel, power, marine and other industries. Bulletin 14B6592 has the facts.

A 2069

ALLIS-CHALMERS MILWAUKEE 1 WISCONSIN

When inquiring specify FP6967 — see handy form pages 2-3

strom units is the least active in the development of rancidity. F — The results show that the mechanism which produces the form of spoilage known as rancidity is present in lard and corn and cottonseed oils since they react relatively the same when irradiated with the same wave length of light; G — Results show that the blue end of the visible spectrum decolorizes the oil or fat to a greater degree than does the red. The green which was used excluded both the green and red light, and in this case it was noted that the natural color and freshness of the oils and fats were retained better than by any other portion of the visible spectrum. H — The samples protected by foil developed the lowest peroxide value and remained free from rancidity until the end of the experiment, which emphasizes the advantage of excluding as much light as possible.

If green is to be used in packaging, it is important that a particular green be chosen which excludes the active rays that cause spoilage. Just because the wrapper is green is no assurance that it gives adequate protection against rancidity developing. Eye-appeal has made foil wrapped commodities good sellers. Aluminum foil is moisture-proof; it reflects heat and light, and thus tends to maintain the temperature of the goods at the time they were wrapped. In certain instances this is of importance. Aluminum foil prevents the escape of flavor from the package. Also the development of rancidity is not catalyzed by contact with the bare metal. Therefore it makes a suitable package for potato chips, doughnuts, salted nuts, etc. (Summarized from Bulletin — "Preventing Rancidity in Food Products by Protective Packaging." — Mayne R. Coe, Food Research Div., U. S. Dept. Agriculture, Washington, D. C.

★

Fog Dispeller Utilizing Calcium Chloride Clears Wide Areas

Tests in golden gate harbor demonstrate effectiveness and extremely low cost

"Nofog" — patented fog eliminator — in a test in Golden Gate channel cleared 16 square miles of fog. Two little machines costing about $200 each have operated successfully at this proving ground. Fog is dispelled by changing the humidity of the surrounding area. The dew point of the atmosphere is so effected that it absorbs some of the fog and drops off the excess like rain. The inventor, Clellan Ross Pleasants, expects that this method will be used to keep airports clear and even afford weather control for large cities. "Nofog" can be shot from planes for emergency landings, set up to clear harbors or carried in rocket form and ships to clear paths ahead. An important feature is that the cost is unbelievably low. Special machinery was developed to vaporize the compound.

"Nofog" contains colloidal carbon particles coated with calcium chloride or another powerful hygroscopic agent. Carbon particles are saturated with the water absorbing agent at high temperature in a burner. In the atmosphere, the hygroscopic agent absorbs the condensed water of the vapor, causing ionization of the particles. They thus repel each other over an exceptional wide area. Heat taken up by the carbon produces an upward radiation, carrying the air and vapor with it, expanding and reducing the relative humidity. The expansion causes further condensation of the fog vapor and some drops become heavy, falling to the ground like rain. The operation is repeated continuously and the upward movement is constantly increased by the added momentum. (Summarized from Calcium Chloride Assn. News, Penobscot Bldg., Detroit, Mich.).

DECALS IDENTIFY dealers . . . INVITE customers . . . INCREASE sales!

Acres of store fronts along America's Main Streets offer "free space" advertising opportunities to alert national advertisers...*right now*! Make this valuable space the spearhead of powerful point-of-sale advertising for your brand of product. Meyercord Decal window valances...economical, durable, easy to apply...stop shoppers —clinch their patronage. They offer more advertising value per square inch, per year, per dollar. Headline *your product* on Main Street for bigger profits with Meyercord Decal window valances.

Let's Talk Over YOUR Plans . . . NO OBLIGATION

Skilled merchandising men, artists and production technicians at the "world's largest manufacturer of decals" will gladly assist you in preparing an attention-compelling, sales-building Decal window program.

And Here's "SPOT NEWS" at YOUR DEALER'S DOOR!

Meyercord Decal signs on windows and doors are additional spot markers along your profit path. They are sales clinchers, literally guiding the buyer's feet through your dealer's door. Carefully planned spot window signs, door signs and valances team up to lend local power to national advertising. They stimulate *action* at the point of sale. Durable, washable, inexpensive, they can be produced in any design, colors or size. It will pay you to investigate the value of a complete store-front Decal program . . . NOW!

Executives: Send for Decal Ad-Visor... FREE!

This helpful guide to Meyercord Decal advertising is offered business executives . . . FREE. Shows how and where successful advertisers use Decals. Write for it on your company letterhead. Address inquiries to Dept. 70-10

©1946, Meyercord Co.

THE MEYERCORD CO.

World's Largest Decalcomania Manufacturers

5323 WEST LAKE STREET • • • CHICAGO 44, ILLINOIS

—When inquiring specify FP6968 . . . see information request blank, pgs. 2-3—

ARMSTRONG
industrial type
HUMIDIFIERS

What **RELATIVE HUMIDITY** *do you need?*

DO YOU KNOW the numerous benefits that can be secured by maintaining proper relative humidity in food processing plants during the winter heating season? "Prevention of loss of weight, and deterioration of quality of hygroscopic materials" . . . "Control of dust and static electricity" . . . "Improvement of workability of materials" are just a few of the improvements cited. Ask for a copy of bulletin telling "What every production executive should know about humidification."

Armstrong builds a complete line of steam type humidifiers. Units capable of handling as much as 40,000 cu. ft. of space list for as little as $100.00, complete with humidistat, solenoid control valve, fan, steam strainer, and drainage trap. For information, write to ARMSTRONG MACHINE WORKS, 881 Maple St., Three Rivers, Mich.

TYPICAL RECOMMENDATIONS*

Flour Storage	60%
Candy Storage	50-65%
Label Printing	45-60%
Egg Storage	80%
Chocolate Covering	50-55%
Dough Fermenting	76-80%
Proof Boxes	80-95%
Yeast Storage	60-75%
Loaf Cooling	60-70%
Apple Storage	75-85%
Paper Box Storage	45-60%
Meat Ripening	80%
Testing Laboratories	60-70%
Grain Storage	30-45%
Citrus Fruit	80%

*For recommended temperatures and complete data, see Armstrong Bulletin No. 158.

ask for this bulletin

Now is the time to find out about the beneficial effects obtained by maintaining proper relative humidity during the winter heating season. Ask for a copy of Bulletin No. 158.

ARMSTRONG MACHINE WORKS
881 MAPLE STREET • THREE RIVERS, MICH.

When inquiring specify FP6969 — see handy form pages 2-3

Peanut Oil and Flour Suited for Use in Numerous Food Products

Winterized oil for mayonnaise or table use; flour used in soups and as meat extender

Perhaps the least developed of all peanut food products is peanut oil. Besides its nutritive characteristics it is an excellent cooking and salad oil for general use. Readily refined, it has good keeping qualities as well as the highest smoke point, the least tendency to impart flavors and lowest cooking loss of the numerous oils for culinary purposes. It does have the disadvantage of becoming cloudy and eventually semi-solid on exposure to refrigerator temperatures. This has practically excluded it from use in commercial manufacture of food emulsions such as mayonnaise. The Southern Regional Research Laboratory has developed a process of solvent winterization whereby 80% of the original peanut oil can be recovered as a product entirely suitable for the manufacture of mayonnaise and salad dressing or for general table use.

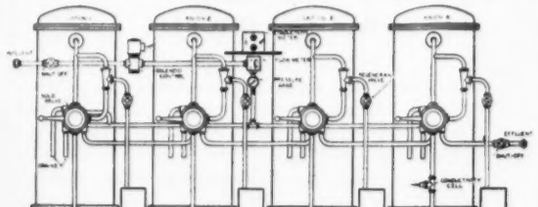
A potentially important peanut food that has been developed but not widely exploited is peanut flour. This highly concentrated source of proteins and vitamins is suited to supplement flours. It is also a practical intermediate product for use in the manufacture of soups, meat substitutes and extenders, infant foods and specialty products. Approximately ninety percent of American peanut oil production goes into edible products, vegetable shortening and oleomargarine accounting for much of it. (From — "A Survey of the Research Status of the Peanut Industry" — National Peanut Council, Atlanta 3, Ga.)

*

Ion Exchange System Processes 9000 Gallons of Water Per Day

Provides potable supply to mining village; eliminates costly hauling by trucks

The entire domestic water needs of a typical mining village are being supplied from local sources through the use of an ion-exchange system of water purification. This is believed to be the pioneer application of such a process



Arrangement of Potable Water Unit

to municipal water supply, and appears to indicate a way of improving water supply of regions isolated from potable water sources.

Previously, the town referred to, David, Ky., was dependent upon tank trucks brought over nearly ten miles of mountain road. The water was stored in a 60,000 gallon reserve tank in the village. All surface water in the region is hard and salty. Wells in the vicinity yield

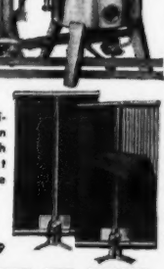
INDUSTRIAL PLANTS
CHEMICAL PLANTS
FOOD PLANTS
***Your* PLANT!**

THERE IS NO OTHER *Filter* LIKE THIS

The Stainless Steel
KLEIN
IDEAL DIATOMACEOUS EARTH FILTERS AND SLURRY FEEDERS

Many important and exclusive improvements and radical innovations have been incorporated in the precision-built Klein Ideal Diatomaceous Earth Filters and Feeders. Constructed of stainless-steel they utilize a new exclusive filter principle that will bring you a new high in maximum efficiency, minimum maintenance and product uniformity.

Illustrated are the radically different Klein Ideal Filter Leafs with discharge tubes that practically eliminate the danger of clogging.



ESTABLISHED 1909

WRITE TODAY for full information and the latest Klein Bulletin.

KLEIN
FILTER & MANUFACTURING COMPANY
1225-29 SCHOOL STREET • CHICAGO 13, ILLINOIS

When inquiring specify FP6970 — see handy form pages 2-3

DETECTO offers a scale that doubles production

One operator does the work of two

The Detecto-Gram Speed Scale is built for lightning-fast-work, twice as fast as ordinary scales — having minimum indicator swing—short fall — end tower design — extra dial legibility. Truly a DETECTO product — super accurate, sensitive, precision built, sturdy, and long wearing. *Available for immediate delivery in aluminum.*

DETECTO SCALES end "guess" weighing

DETECTO-GRAM INDICATOR HEAD
An attachment that converts your present beam scales to accurate weighing equipment. Indicator stops instantly at correct weight.

DETECTO-GRAM ALUMINUM SPEED SCALE FOR IMMEDIATE DELIVERY

SCALE ENGINEERS IN ALL PRINCIPAL CITIES

DETECTO • SCALES • INC.
81 O MAIN STREET • BROOKLYN 1, N. Y.

When inquiring specify FP6971 — see handy form pages 2-3

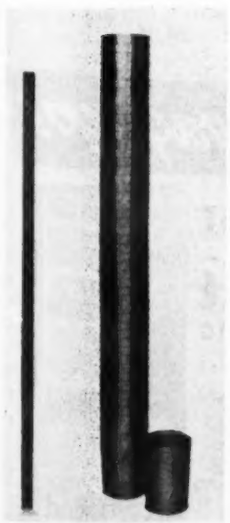
undrinkable, brackish water containing 2500 to 3000 parts per million of total solids. Water costs by the truck and tank method ran as high as $1600 a month. Installation of the ion-exchange system was the result of a search for a cheaper and better supply of water. The new unit produces 9000 gallons of potable water in a nine hour operating day. About 85% reduction in solids is achieved. The final water averages about 440 ppm total solids, none of which is hardness. Operating costs average $400 a month.

The "Filt-R-Stil" equipment consists essentially of four columns arranged in series and containing alternate beds of cationic and anionic exchange resins. Raw water is fed through the first column and thence through the series. The quality of the treated water is indicated by an electrical conductivity cell operating in the outlet from the last column. When required the resins are regenerated. The "Filt-R-Stil" unit although capable of completely demineralizing water, is regulated to reduce the dissolved solids content only to potable levels. (American Cyanamid & Chemicals Corp., 30 Rockefeller Center, N. Y.

★

Tapered Design Permits Nesting of Cans; Storage Space Cut 4/5ths

Compact stacks can be mechanically wrapped for easy handling and protected from denting



Cans nest snugly in stack; drawing at right shows swaged shoulder near bottom

Tin cans designed with a slight taper of the sides that permits nesting provide space-saving and handling economies. When packed for storage or shipment they require about one-fifth the space occupied by standard types. At present there is a minimum load per freight car of 15,000 pounds of round, straight side cans. This is in sharp contrast to the 100,000 pounds capacity of the car. The same proportion of load to capacity applies to trucks and trailers.

The cans have a slight taper of the sides that permit nesting. Near the bottom the wall is swaged providing a shelf around the entire inside on which the can above rests, preventing jamming or sticking. No matter how high the cans are stacked, one can be removed from the next lower with the utmost ease. The illustration shows a stack of 48 cans, 48 inches high. Cans thus stacked may be mechanically wrapped in one small package and protected from denting. Patents cover rectanglar as well as round metal containers. (Joseph R. Francis Co., 345 S. Dearborn St., Chicago 4, Ill.)

The New 2½" to 4" Geared Pipe Threader

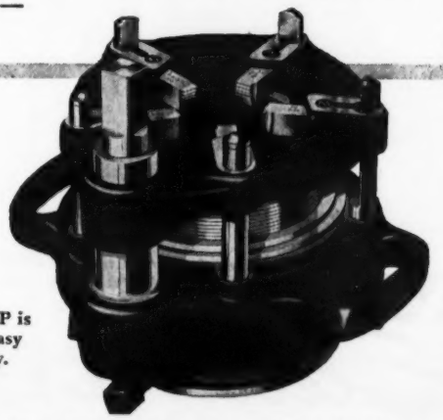
that's a lot easier to use

New RIDGID No. 4P

● Surprisingly easy to handle — that's one big advantage you find RIDGID has engineered into this new 4P. Geared die stocks for 2½" to 4" pipe can't be featherweight but they can be far easier to use — and this one is. It gives you smooth perfect threads with least possible effort. Look, now —

Balanced loop handles make new 4P extra easy to put on pipe.

New 4P is extra easy to carry.



New 4P has 5 chasers for smoother threading.

Quick-setting workholder sets to pipe size before putting on pipe.

Balanced Loop-handles. Easy to pick up, easy to put straight on pipe — no slipping or tipping over. And easy to carry with one hand. . . .

Quick-setting Workholder. Mistake-proof — you set it to size *before* you put it on pipe, then tighten only one screw. No bushings to bother with or lose. . . .

Easy Pipe Threading. Four sets of 5 high-speed steel dies easily cut clean accurate threads, standard or tapered, drip threads, short nipples. Ratchet handle with each 4P; RIDGID universal drive shaft available for power drive. . . .

Extra Easy Upkeep. Twin-anchored drive shaft turns in oilless bronze bearing — never needs oil. Grease packed gear is fully enclosed, safe for you, safe from dirt and wear.

●

YOU'LL LIKE the new rugged steel-and-malleable 4P — it's a true worksaver RIDGID, precision made throughout — more for your money. Production still limited — see it at your Supply House.

Millions of RIDGID Tools in use

RIDGID

WORK-SAVER PIPE TOOLS

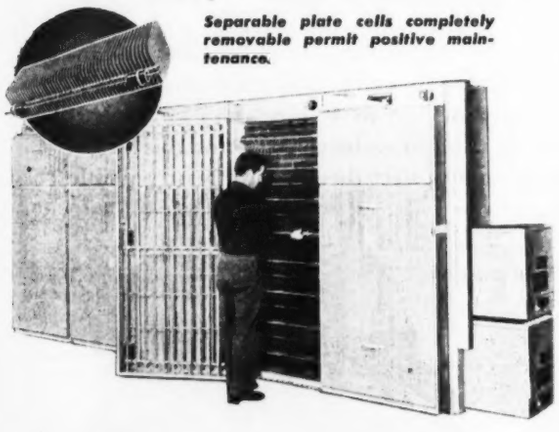
The Ridge Tool Company
Elyria, Ohio, U. S. A.

—When inquiring specify FP6972 . . . see information request blank, pgs. 2-3—

HINGED, FULL HEIGHT IONIZERS

SEPARABLE COLLECTOR PLATES

SECTIONAL CONSTRUCTION



Separable plate cells completely removable permit positive maintenance.

Hinged ionizer sections provide easy access to collector plate cells for cleaning.

AAF

Electro-CELL

CELL TYPE *Electronic* PRECIPITATOR

The Electro-Cell is an electronic air filter of new and unusual design that offers the advantages of sectional construction, removable collector plates, full-height hinged ionizers and totally enclosed high voltage wiring. These features, exclusive to the Electro-Cell, are developments of major importance because they simplify installation, improve performance, promote safety and offer a choice of maintenance methods.

The Electro-Cell filter is one of three electronic precipitators developed by this company to meet any requirement for super-clean air. Each type has distinctive advantages under certain operating conditions, and is the result of more than ten years of research and experimentation in the field of electronic dust control.

Send for Bulletin 252 which gives the complete story.—

AMERICAN AIR FILTER COMPANY, INC.

105 Central Avenue Louisville 8, Kentucky

In Canada: Darling Bros., Ltd., Montreal, P.Q.

When inquiring specify FP6973 — see handy form pages 2-3

Sprayer Develops 300 Lbs. Nozzle Pressure; Weighs Only 13 Ounces

For insecticides, antiseptics, deodorants; can be used in any position without danger of leaking

A small, all-metal hydraulic type sprayer develops an average 300 pound nozzle pressure with a single stroke of its short 2½ inch piston. It produces an extremely light, finely atomized aerosol spray for use with

Sprayer uses short 2½" piston

modern insecticides, antiseptics, deodorants, lotions and similar solutions. The advanced type nozzle has a tiny orifice .006" in diameter placed in front of a slotted diffuser plate. This plate, with its minute openings, helps to break the liquid into a fine mist.

When plunger of piston is pulled back, a springlock ball check valve closes off the nozzle orifice, while the vacuum created by withdrawal of the plunger from the cylinder draws liquid up to the supply tube and past a gravity ball check to fill the cylinder. Forward movement of the piston builds up pressure which opens the ball check valve at the nozzle and closes the one at the supply tube. Liquid is forced through the diffuser plate and orifices, then expelled from the sprayer in a uniform billow of penetrating mist.

An exclusive feature of the sprayer is an airlock behind the cylinder which allows the sprayer to be used in any position without danger of leaking. As liquid is drawn up from the container to fill the cylinder, air current rushes through the airlock to replace it. Movement of air wipes the piston clean and carries excess fluids back to the container. The sprayer is built entirely of machined brass and stainless steel, contains no rubber or leather gaskets. Weight under 13 oz. including ½ pt. container. (Cornelius Sprayer Co., Minneapolis, Minn.)

★

Large Bodies, Short Wheelbase Make Most of Garage Space

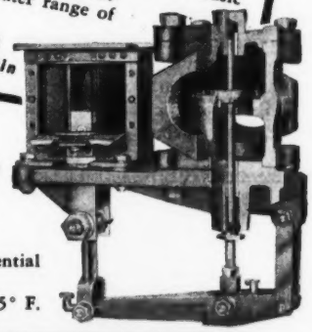
Increased dimensions double loadspace of bodies in proportion to floor space required

Inadequate loading platform and garage space is a problem that plagues many food organizations. The difficulty may be further complicated when trucks with longer wheel base chassis are resorted to in order to get extra load space. The

NEW—Direct Acting Solenoid Valve for 150 lbs. Differential Pressure . . .

That's the biggest news about the new Johnson Solenoid Valve. Some sizes will operate under differential pressures up to 150 lbs., *without pilot valves.* All sizes end the time lag and wiredrawing that come with slow opening—the danger of clogging that comes with auxiliary pistons. Whatever your liquid level or flow control problems, investigate the new possibilities this Johnson design brings to solenoid valves. It offers all the basic advantages, with none of the shortcomings, for a far greater range of applications.

GET ALL THE FACTS
Write for new bulletin



WHERE CAN YOU USE THIS AUTOMATIC VALVE?

- Immediate full flow
- No pilot valves
- Up to 150 lbs. differential pressure
- Temperature to 365° F.

The Johnson Corporation

826 Wood St., Three Rivers, Mich.

When inquiring specify FP6974 — see handy form pages 2-3

Stack 'em way up!

AND DO IT FAST with a

Weld-Bilt

PORTABLE ELECTRIC ELEVATOR

MAKE SHORT WORK of the chore of hand-stacking bundles, crates, cartons and boxes. Lift them with a "WELD-BILT" Portable Electric Elevator—and save valuable man-hours for more profitable work.

Fast, safe, easy-to-operate "WELD-BILT" Elevators are now available in many styles and capacities. Telescope or hinged type.

Ask for Catalog 504-A

Weld-Bilt Products

WEST BEND EQUIPMENT CORP.

228 WATER STREET, WEST BEND, WISCONSIN

MATERIALS HANDLING ENGINEERS

Hydraulic Lift Trucks, Two and Four-Wheel Trucks, Tiering Machines, Skid Platforms, Barrel Trucks and Racks, Portable Elevators and Special Equipment

When inquiring specify FP6975 — see handy form pages 2-3

utilization of higher, wider bodies is suggested as a practical means of getting more load handling capacity of existing garage and platform area.

For instance, a seven-foot conventional panel body on a 113 inch wheelbase has approximately 121 cubic feet of load space and requires 92% more garage space per cubic foot than a 113 inch chassis with a man-high, wider body and the driving controls shifted forward to lengthen the loadspace to 9½ feet thus increasing the payload capacity to about 280 cubic feet. The former requires about 1 square foot of floor space for each cubic foot of load space. The latter requires about ½ square foot of floor space for each cubic foot of load space. Similar savings are achieved when the same change in body dimensions and driving controls are applied to units of longer wheel base.

In loading, a 48 foot platform can accommodate seven conventional panels on a 113 inch wheelbase and afford 847 square feet of load space. At the same loading platform, 6 wider body units, man high on the same wheelbase can be loaded with 1680 cubic feet of payload. The extra height and width speed loading and reduce fatigue of those performing the work. Some fourteen manufacturers of trucks offer higher and wider delivery bodies on short wheelbase and light chassis. Such trucks with so much more loadspace enable truckmen to handle more volume. (Summarized from data presented by Metropolitan Body Co., Bridgeport, Conn.)

★

Catsup Tests Prove Evaporation Big Factor in Refractometer Readings

Why do canners get two different results for specific gravity of their products, one by weighing bottle, another by refractometer methods? This dollar-and-cents question is analyzed in factual, seven-page booklet on "Control of Specific Gravity of Tomato Products by Use of the Abbe Refractometer," complete with tables. Text analyses results of a series of tests using the Abbe refractometer method. Abbe refractometer, hydrometer, Brix spindle or weighing bottle methods of determining specific gravity of hot tomato products are briefly merited and demerited. For purpose of the tests, tomato catsup was selected as one of the chief trouble-makers. Four commercial samples of catsup, purchased on the open market, were chosen. Work was divided into two divisions, one on catsup at room temperature, another on catsup heated to boiling. Findings indicate that 1) Refractive index gives same specific gravity at room temperature as that obtained by weighing bottle method; 2) Same refractive index is obtained from filtrate as from whole, unfiltered product. Conclusion: less time consumed, less loss of water results from using whole product; 3) Greatest factor of error in refractometer readings is that caused by evaporation during handling of samples; 4) Hot samples are difficult to read accurately due to rapid evaporation caused by increased temperature; 5) Hot products can be read on refractometer by cooling sample in pipette under cold water tap and an undiluted portion of product read on Abbe refractometer; 6) Accurate results can be obtained rapidly by following precautions and suggestions included in text. For an interesting analysis of these tests, the method in which they were conducted, and the logic behind their conclusions, write for Bulletin No. 11.

CONTINENTAL CAN COMPANY, INC., Dept. FP, 100 E. 42nd St., New York 17, N. Y.

When inquiring specify FP6976 — see handy form pages 2-3

THE *New*
100-A-MINUTE
FMC *Frozen Food* **CARTON FILLER**

Brings To The Industry ***New*** PACKAGING SPEED RECORDS / AUTOMATIC OPERATION / ASTOUNDING SAVINGS

Wherever frozen foods are packaged, the new FMC Carton Filler is being enthusiastically welcomed. Installations have proven its sensational speed and phenomenal cost-cutting and the FMC name is assurance of its dependable operation and enduring service.

Combines These 10 Processes in 1 Continuous Operation:

1 — Cartons feed automatically from magazine.
2 — Cartons are set up—ready for filling—by automatic opener.
3 — Safety device protects against missing or defective cartons.
4 — Cartons fed into filling unit and registered under rotary filling stations.
5 — Product fed into adjustable volumetric measuring pockets.
6 — Correct volume dropped into cartons.
7 — Carton contents "shaken down" for full weight and even pack.
8 — Final inspection or check weighing available.
9 — Filled cartons automatically closed and formed into proper shape.
10 — Delivered to overwrapping machine, or to final-operation conveyor.

Send today for illustrated descriptive literature.

CF 202

Food Machinery Corporation
SPRAGUE-SELLS DIVISION • Hoopeston, Illinois

When inquiring specify FP6977 . . . see information request blank, pgs. 2-3

BETTER MIXING produces *Better Products*

The Mulling Principle of Mixing

In the Simpson Mixer heavy revolving mullers knead and smear the material which is folded over and turned into their path by a set of plows. Action is similar to a mortar and pestle. Pan is stationary. Mixer is self-cleaning.

better mixing results from
Mulling in a Simpson

If MIXING is important in the production of your product, it stands to reason that the more thorough the mixing, the finer the product. That's why a great variety of dry, semi-dry and plastic materials are mixed in Simpson Mixers.

The Simpson method of mixing by "mulling" not only mixes more thoroughly than ordinary methods, but it mixes faster, and at less expense. Simpson Mixers are available for both small and large batch mixing and fit into continuous systems ideally. Write for full information. If you'd like, a National Engineer will call and give you complete information about mulling your products in a Simpson.

NATIONAL ENGINEERING CO. SIMPSON INTENSIVE MIXERS **547 W. Washington Blvd., Chicago 6, Ill.**

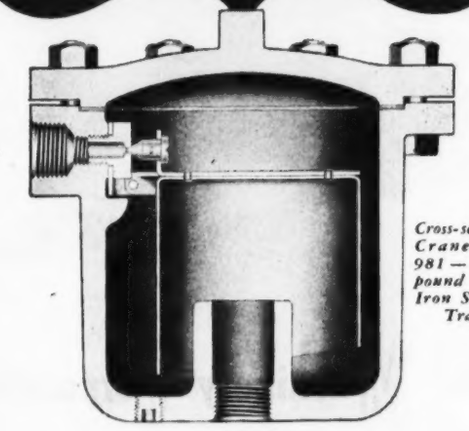
For Better Mixing . . . Faster . . . Mull It in a Simpson

When inquiring specify FP6978 . . . see information request blank, pgs. 2-3

Only One Moving Part

CRANE

Inverted Open Float STEAM TRAPS



Cross-section Crane No. 981 — 150-pound Cast Iron Steam Trap

Float Actuating the Disc through Simple Lever is Only Moving Part

Extremely simplified and compact design with unusually high discharge capacity. Assures efficient drainage of all steam piping and steam heated equipment. Saves fuel . . . keeps steam hot and dry. Works automatically . . . requires practically no maintenance. Extra strong and wear resisting construction throughout. Easy to install and service.

WORKING PRESSURES AND SIZES: 1 to 150 pounds saturated steam, in ½-in. size only—1 to 200 pounds, from ½ to 1-inch incl.—50 to 300 pounds, in ¾ and 1 in. sizes.

WRITE FOR DESCRIPTIVE BULLETIN AD-1610

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

EVERYTHING FROM . . .

CRANE

FOR EVERY PIPING SYSTEM

VALVES • FITTINGS • PIPE • PLUMBING • HEATING • PUMPS

When inquiring specify FP6979 — see handy form pages 2-3

NEW LITERATURE ★

The following literature has been issued recently by manufacturers of the products discussed and is available to food process manufacturing executives on request. Address requests to the publishers by using handy request form, pages 2-3, or write to the manufacturers direct.

Heat Transfer and Crystallization Data Collected for use by the Process Industries

A 52 page booklet treats the important subjects of heat transfer and crystallization. Table of contents includes Basic Principles of Heat Transfer, Evaporator types, Heat Transfer Coefficients in Evaporators, Steam Economy of Evaporators, and The Theory and Practice of Crystallization. Mathematical and graphic treatment is resorted to in bringing out the development necessary for a clear understanding of the two subjects. Subheadings under the chapters include: Fluids in Turbulent Flow Inside Clean Circular Pipes, Liquids Outside Pipes, Condensing Vapors, Properties of Fluids, Illustrative Problems, Total Heat Transferred, Vertical Tube Evaporators, Basket Type Evaporators, Horizontal-Tube Evaporators, Forced Circulation Evaporators, Steam Film Coefficients, The Effect of Non-Condensable Gases, Liquid Film Coefficients, The Effect of Liquor Level, Apparent Coefficients, Effects of Boiling Point and Temperature Drop, Forced Circulation Evaporator Coefficients, Coefficients in Long-Tube Vertical Evaporators, Scale, and A Comparison of Evaporator Types. Under Steam Economy of Evaporators it is pointed out that the selection between the single effect and the multiple effect evaporator is one of installation costs against the long time savings in steam costs. Cases of feeding and the proper solutions are presented. Under The Theory And Practice of Crytallization the topics discussed are: Equilibria and Calculation of Yields, Formation of Nuclie, Crystal Growth, Vacuum Crystallization, Mechanical Crystallization, and The Vacuum Crystallizer. The booklet is adequately illustrated with mechanical drawings and the math required for an understanding of the text is algebra and graphic representation at the college level. The manufacturer will send interested process plant personnel complete information and a copy of "Heat Transfer And Crystallization."

SWENSON EVAPORATOR COMPANY, Dept. FP, Division of Whiting Corporation, Harvey, Ill.

When inquiring specify FP6980 — see handy form pages 2-3

★

Germicidal Materials Offer Means To Lower Bacteria Counts

The cleaning, germicidal, conditioning and descaling materials described in a release on the subject of low bacteria counts go a long way towards meeting four essential objectives in the dairy industry. These are. (1) To produce a quality product with all of its nutritive properties, purity and flavor intact. (2) Save time by speeding up daily clean-up and related work. (3) Prolongation of the life of existing equipment and the increase of its operating efficiency. (4) To economize on essential sanitation and maintenance cleaning. The booklet describes compounds for the removing of milkstone deposits from coils, tubing and the sides of pasteurizers, pre-heaters, regenerators, aging tanks, holding vats, coolers and similar equipment. Germicidal treatment of processing and handling equipment, bottle and can washing, and can conditioning is taken up. The descaling of piping, spray jets, and other surfaces of can washing machines, pasteurizers, ammonia condensers and other types of dairy equipment is fully covered. Another essential feature of the cleaning practices is that of steam detergent cleaning of equipment, and parts together with walls, floors, etc. Information on the compounds used in these operations is freely available.

OAKITE PRODUCTS, INC., Dept. FP, 22 Thames St., New York 6, N. Y.

When inquiring specify FP6981 — see handy form pages 2-3

★

Protection Against Acids, Alkalis, Oil and Water

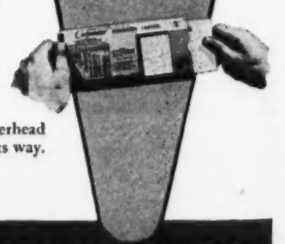
A booklet describes a coating that may be brushed, sprayed, or dipped on concrete and structual steel, floors, pipes, and machinery. It offers protection against alkalis, acids, oil and water. It may be used for both inside and outside applications in areas where corrosion is a serious problem. Unretouched photographs of acid plants are shown and other plant applications illustrated and described. The

Write today... for useful data on STAINLESS TUBING

The Carpenter Stainless Tubing Slide Chart gives you a quick, easy way to get the information you need on:

- PHYSICAL PROPERTIES
- CROSS SECTIONAL AREAS (I. D. AND O. D.) OF TUBES
- SQ. FT. SURFACE PER LINEAL FT. OF TUBE
- VELOCITY CONSTANTS
- MASS VELOCITY CONSTANTS
- AVAILABLE SIZES

A note on your company letterhead will start your Slide Chart on its way. Drop us a line today.



THE CARPENTER STEEL CO.
Welded Alloy Tube Division • Kenilworth, N. J.

When inquiring specify FP6982 — see handy form pages 2-3

corrosion-proofing of concrete, bricks, masonry, cast stone etc. is of particular interest. The coating is made from a special combination of synthetic resins and inert pigments. It dries by evaporation of the volatile solvents. Polymerization converts the residual material to a tough and non-oxidizing film. The vehicle is crystal clear and contains no drying oils, wax, steartes, or bitumen. Proper formulation renders it tough and hard or permanently plastic. Color identification of lines and danger areas may be obtained with the coating. Temperature limits of the material are 300° F. for dry application and 180° F. for wet or immersion use. Partially filled cans do not skin over and no straining is necessary. Advice on corrosion-proofing problems is offered. The booklet is available on request.

PRUFCOAT LABORATORIES, INC., Dept. FP, 50 East 42nd Street, New York 17, New York.

When inquiring specify FP6983 — see handy form pages 2-3

★

Rust and Corrosion Due to Brine Action Prevented by Treating System

Brine treatment to remove rust and corrosion from industrial refrigeration equipment is described in detail in a four page booklet. This brine treatment contains all the ingredients necessary to counteract reactionary causes of brine contacting metal whether the brine be of sodium chloride or calicum chloride mixture. Continued use of the treatment described will increase the alkalinity of the brine thereby destroying the acids and other corrosive elements naturally present in brine. There are no injurious chemicals in the solutions employed in the treatment. Rust that has already formed is removed, a protective film is established over the liquid covered metal surface, and the brine solution is definitely cleared up. Application consists of a simple mixing operation once a week and visits from the field representatives of the subject company. Information is sent those interested.

THE BROOKS BOILER TREATMENT COMPANY, Dept. FP, Cleveland, Ohio.

When inquiring specify FP6984 — see handy form pages 2-3

★

Fire Extinguishers Require No Perodic Recharging

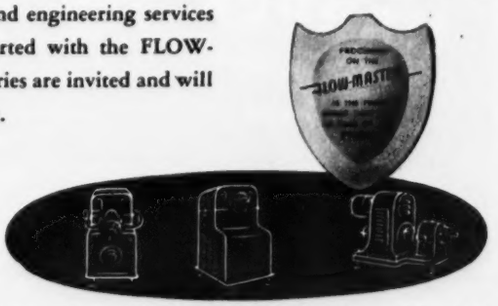
Despite the speed with which big city fire departments move, the time to prevent heavy fire loss is during the vital seconds after the first spark. For this, and for conflagrations in paint spray booths, grease pits, oil, gasoline and electrical fires, Dugas extinguishers and Plus-Fifty Dugas Dry Chemical are recommended and described in an eight-page catalog. Unlike carbon-tetrachloride, it is claimed that Dugas Dry Chemical generates no toxic fumes, does not require periodic recharging. Endorsed by Underwriters' Laboratories and similar agencies. Product does not corrode, evaporate, freeze, spoil or cake, according to text. For class B and C fires, B materials, flammable liquids, solids, gases and C electrical equipment. To operate, pull locking pin, turn hand wheel, squeeze nozzle handle. Generates carbon dioxide and water vapor. Wheeled models, also described, contain nitrogen cylinder and dry chemical, have dual-stream nozzle adjustable for either long or fan stream. Illustrated specifications and cutaway diagram. Write for catlog.

ANSUL CHEMICAL COMPANY, Dept. FP, Marinette, Wis.

When inquiring specify FP6985 — see handy form pages 2-3

One machine, the FLOW-MASTER Kom-Bi-Nator, combines any or all of the operations of grinding, mixing, blending, texturizing, emulsifying, bleaching and homogenizing into a single, fast, low-cost, efficient operation.

Marco laboratory and engineering services will help you get started with the FLOW-MASTER. Your inquiries are invited and will have prompt attention.



***FLOW-MASTER* Homogenizers — Kom-Bi-Nators And Sanitary Pumps For The Process Industries**

MARCO COMPANY Inc., Dept. D-10, Wilmington 50, Del.

When inquiring specify FP6986 . . . see information request blank, pgs. 2-3

BRONZE BOLTS
STAND THE STRAIN
Suspend 3 Miles of Drill Pipe

In modern oil wells the draw works are often required to lower and hoist more than 15,000 feet of drill pipe. Think of it! 3 miles of pipe weighing 30 pounds per foot!

Brakes on the draw works are constantly in use sustaining the entire load. For this rugged service Raybestos-Manhattan, Inc., have perfected a brake block and fastening device which depends upon Harper Bronze Bolts to withstand the shearing force of this tremendous weight.

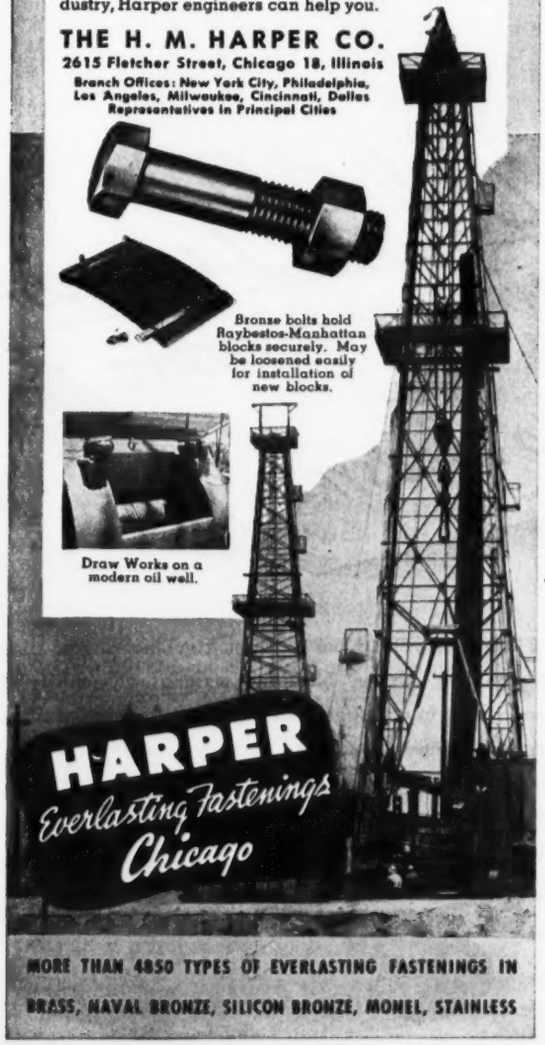
Harper Everlasting fastenings made from high strength non-ferrous and stainless steel alloys are consistently specified by engineers to fight damp, rust-producing atmospheres and corrosive chemicals that would soon weaken common steel.

When you have a fastening problem in your industry, Harper engineers can help you.

THE H. M. HARPER CO.
2615 Fletcher Street, Chicago 18, Illinois
Branch Offices: New York City, Philadelphia, Los Angeles, Milwaukee, Cincinnati, Dallas
Representatives in Principal Cities

Bronze bolts hold Raybestos-Manhattan blocks securely. May be loosened easily for installation of new blocks.

Draw Works on a modern oil well.



MORE THAN 4850 TYPES OF EVERLASTING FASTENINGS IN BRASS, NAVAL BRONZE, SILICON BRONZE, MONEL, STAINLESS

When inquiring specify FP6987 — see handy form pages 2-3

New Literature

Uses and Installations of Air and Gas Vacuum and Pressure Pumps will help the Engineer

Uses and illustrations are shown in a 40 page blueprint booklet on vacuum pumps and pressure blowers. Uses discussed include aerating and agitating liquids, instrument testing, water pump priming, gas and water well pumping, vacuum chucking, transferring of chemicals, heating, drying, evaporating, impregnating, boosting of air and gas, paper feeding, bottle filling, and scores of other items. A very interesting one is the treatment accorded an air motor in view of the current shortage of fractional h.p. electrical motors. Air motors are available up to 5 h.p. at 1800 rpm. No reduction gears are required to get a variety of speeds. Completely encased motor driven pump units are shown for easy hand transportation and for use in vacuum or pressure testing right on the job. One layout shows a unit for testing valves and stopcocks for leaks, and as rapidly as a person can handle them the slightest leaks are instantly recorded by the appearance of air bubbles in a glass jar of liquid. Paper feeding in sheets by first loosening the sheets on the pile by pressure and then firmly lifting by vacuum is shown. Great speeds are accomplished in paper feeding on all sorts of printing and binding equipment. There is also shown a vacuum operated chucking device which obviates the use of mechanically adjusted chucks or electrically controlled magnetic chucks. Fuel oil burning as well as hospital surgery, gas generating systems, steam vacuum units for putting steam into stubborn radiators instantly are also among the interesting layouts shown. Ask for bulletin No. 52445.

LEIMAN BROS., INC., Dept. FP, 146-181 Christie St., Newark 5, N. J.

When inquiring specify FP6988 — see handy form pages 2-3

★

Split Ball Bearings are used in four Classes of Industrial Applications

Split ball-bearings combine power economy and longevity according to a 30 page catalog. In many cases the efficiency of the solid race bearing would be defeated or materially diminished without the application of bearings of the divisible types. The divisible types occupy the same relative position in the anti-friction field as the divided journals do in the plain or solid bushing field. There are four main classes of applications for these bearings. (1) Where the solid race type cannot be assembled. (2) Instances in which the divided bearing provides the best engineering practice. (3) Where they provide the most economical installation. (4) And where exceptional accessibility is required. Charts give shaft and housing dimensions, load ratings, and other engineering data. Diagrams show construction features and the booklet concludes with installation, maintenance and lubrication information. In writing ask for catalog no. 84.

SPLIT BALLBEARING CORPORATION, Dept. FP, Lebanon, N. H.

When inquiring specify FP6989 — see handy form pages 2-3

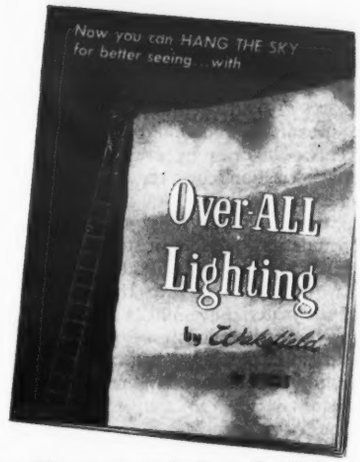
★

Equipment Catalog Offers Mixers, Blenders, Kettles And Pumps

A 32 page catalog lists equipment for the process industry. Portable and side entering mixers are described as are wood tanks and various other types of mixers. The blenders offered have an anti-balling feature for materials having a

Send for this helpful new booklet!

You'll find it a big aid in planning OFFICE LIGHTING



Here's a completely different way to look at office lighting—and to measure it in terms of results. You'll find this booklet helpful, easy-to-follow and practical. Tells you how Wakefield's new Over-ALL lighting can speed work, increase comfort, reduce errors, minimize eyestrain. Send for your copy today. The F. W. Wakefield Brass Company, Vermilion, Ohio.

Wakefield
Lighting Equipment for Office and Drafting Room

When inquiring specify FP6990 — see handy form pages 2-3

Genuine
BascoTEX PLASTIC APRONS

DEFINITE PROTECTION against oil, acid, water, alkalies
Will not crack or peel
No Laundering—just wipe off with damp cloth

20-MILL PLASTIC 10 Times Stronger than cloth
Costs Only About 1 cent a day

Free Sample Swatch on Request
ASSOCIATED BAG & APRON CO.
220 W. Ontario St., Chicago 10, Ill.
SUPerior 5809

PRICES	SIZES	COLORS
WHITE—4 Mill Plastic		
27 x 36	$6.62	per doz.
30 x 36	7.53	per doz.
36 x 40	7.96	per doz.
36 x 44	8.85	per doz.
Full Length Sleeves	6.00	per doz pr.
BLACK or WHITE—8 Mill Plastic		
27 x 36	$ 8.17	per doz.
30 x 36	8.87	per doz.
36 x 40	10.10	per doz.
36 x 44	12.38	per doz.
Full Length Sleeves	9.66	per doz pr.
Leggings, Hip Length	$11.90	per dozen pair
BLACK—12 Mill Plastic		
27 x 36	$ 9.31	per doz.
30 x 36	10.15	per doz.
36 x 40	12.95	per doz.
36 x 44	14.35	per doz.
MAROON or BLACK Heavy Double-Coated Neoprene		
27 x 36	$12.90	per doz.
30 x 36	14.00	per doz.
36 x 40	18.33	per doz.
36 x 44	20.50	per doz.
Full Length Sleeves	12.90	per dozen pair
Leggings, Hip Length	23.50	per dozen pair
BLACK or WHITE—Extra Heavy 20 Mill Plastic		
27 x 36	$12.90	per doz.
30 x 36	14.00	per doz.
36 x 40	18.33	per doz.
36 x 45	20.50	per doz.
Full Length Sleeves	12.90	per dozen pair
Leggings, Hip Length	23.50	per dozen pair

All Prices F.O.B. Chicago.
Minimum order 1 dozen
ORDER BY PHONE OR MAIL

When inquiring specify FP6991 — see handy form pages 2-3

tendency to "ball-up", or collect in concentrations. This device breaks up lumps, prevents "agglomeration", or lumping, and forces thorough distribution of all component materials. Laboratory jar mills have up to 15 gallon capacities in a choice of metals. Kettles and pressure vessels are offered some up to 3000 gallon capacities. Among the process equipment units covered are: autoclaves, dryers, fractionating columns, jacketed fittings, fumigators, heat exchangers, impregnators, kettles, pressure vessels, tanks, vulcanizers, and special equipment. A large number of pumps are illustrated. They are of the screw, rotex, centrifugal and chemical types. Centrifugal pumps are available up to 3600 GPM., heads to 400 ft. and temperatures to 350° F. The catalog concludes with a line of industrial locomotives for general industrial use. Of interest is a fireless locomotive that has a steam reservoir instead of the conventional water tank and fire box. It receives its steam supply from the plant boiler. Diesel equipment is also included in this catalog which will be promptly sent on request.

H. K. PORTER COMPANY, INC., Dept. FP, Pittsburgh 22, Pa.

When inquiring specify FP6992 — see handy form pages 2-3

★

Special Built Time Switches For Volume Users Serve Industry In Novel Ways

A four page bulletin cites six examples of time switch installations in the low cost field for the special needs of original equipment manufacturers. These six have been chosen from numerous models and in each instance the timing operation has been achieved especially to do the intended job. The specific application is treated in text form with a diagram illustrating the wiring and accompanying the text to side of the page are pictures the units under discussion. In the first installation, timing was provided for a run of 35 minutes every 3 hours. In the second, two circuits are controlled and a time delay is arranged. The third installation provides for automatically defrosting condenser coils. Size limitations have been met in the fourth case. No. five can be supplied for interval batch operations on equipment for cooking, mixing, melting, baking and drying. The sixth was made for dairy equipment compactness and simplicity were achieved and control was provided for two circuits being on and off at alternate one and five minute intervals. Bulletin T-55 is furnished on request.

AUTOMATIC TEMPERATURE CONTROL COMPANY, INC., Dept. FP, 34 East Logan St., Philadelphia 44, Pa.

When inquiring specify FP6993 — see handy form pages 2-3

★

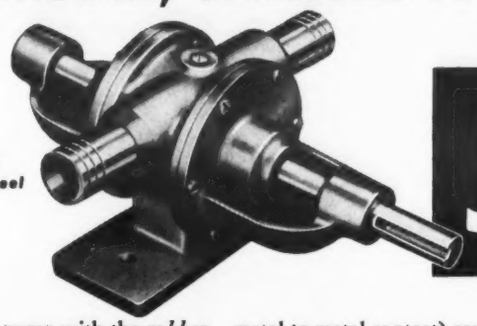
16-Page Booklet Explains A-B-C's of Turbo-blowers, Rotary Compressors

The A-B-C's of turbo-blowers, rotary compressors and vacuum pumps are explained in a 16-page, illustrated booklet for student training. Besides describing such units, how they operate and how to figure them, emphasis is placed on the importance of submitting complete information in order to figure blowers correctly. Charts show pressure volume, influence of water vapor on volume, and correction curves for volumes to maintain constant air weight despite changes in temperature and barometric pressure.

ALLIS-CHALMERS MFG. CO., Dept. FP, 677, Milwaukee, Wis.

When inquiring specify FP6994 — see handy form pages 2-3

For smooth, efficient food processing!



Model "EL-1"
18-8 Stainless Steel

JABSCO

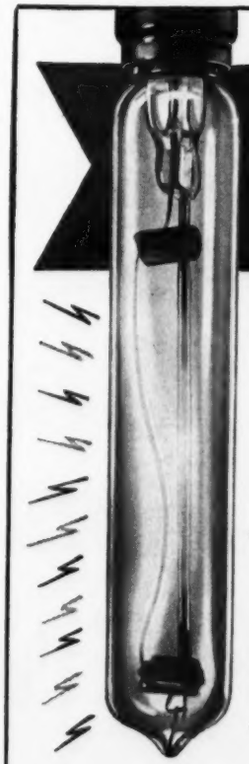
Put Jabsco—the pump with the *rubber* impeller—in your food processing plans. Jabsco's patented pumping action with flexible rubber impeller offers particular advantages to you. It provides an unusually high suction power for "lift" and instant self-priming. It handles all types of liquids—juices, syrups, brine, oils, vinegar, preserves—viscous and abrasive—with equal efficiency and without clogging the pump. Its simplicity (only *one* moving part and no metal to metal contact) assures smooth, quiet, trouble-free operation. The Jabsco lubricates with the liquid being pumped, works equally well in either direction, and may be mounted at any angle. Jabsco models are available in either bronze or stainless steel construction with standard or special impellers. There's a range of sizes and capacities with speeds from 100 R.P.M. to 1800 R.P.M. Write today for full details and application data.

the food pump with the rubber impeller

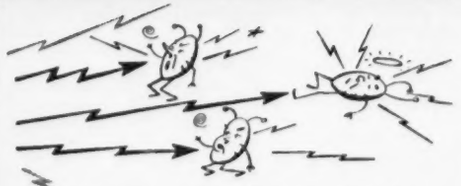
Only a Jabsco Pump offers the patented pumping action and perfected flexible impeller which have made Jabsco known as "the pump with the rubber impeller."

JABSCO PUMP CO.
8302 Wilshire Blvd., Beverly Hills, Calif.

When inquiring specify FP6995 . . . see information request blank, pgs. 2-3



NOW! STOP MOLD AND SLIME . . . ELECTRONICALLY



Prevent costly spoilage, needless losses. Protect your meat . . . and your profits . . . with the SPERTIFIER

Positive protection. Safe protection. That's what you want when you install equipment to combat profit-stealing mold and slime. And that's what you get—*plus*—when you choose the genuine Spertifier. For this advanced electronic irradiation equipment not only effectively kills airborne (and many surface) bacteria . . . but it also screens out harmful rays that can produce off-taste.

So simple, too. Easily installed. Flexible. No special care. Just switch it on and electronics take over. Starts quickly even at zero temperatures. Maintains constant irradiation at all temperatures. The Spertifier is flexible, may safely be placed close to foods. Sperti tubes are long lasting, fully guaranteed. For additional information about the Spertifier and how it can cut losses, protect profits in your own business, write or wire, today. Dept. FP-106 Sperti, Inc., Cincinnati, Ohio.

The SPERTIFIER provides completely selective ultra-violet irradiation

Sperti Inc. CINCINNATI 12, OHIO • Research • Development • Manufacturing

When inquiring specify FP6996 . . . see information request blank, pgs. 2-3

Centrifugal Refrigeration For Cooling Process Liquids

Because of their large volume capacity centrifugal refrigeration compressors are useful to produce extremely low temperatures (-50° to -100° F.). A booklet describes their construction and application features. The refrigeration system consists of a compressor, condenser, and evaporator together with the various auxiliaries. Water or brine to be cooled is passed through the inside of the evaporator tubes and heat passes from it through the tube walls into the surrounding liquid refrigerant causing the refrigerant to boil off as a gas. The gas passes up through the tube section into the upper portion of the evaporator and is removed from there by the compressor. In the condenser, water is circulated through the inside of the tubes. Sizes offered range from 150 to 2600 tons refrigeration effect per single unit. Refrigerants used are halogenated hydrocarbons such as Freon-11 and 12 and 114. Hydrocarbon refrigerants included butane, isobutane, and ethylene may also be used. Freon-11 and 114 are low pressure refrigerants and are non-toxic. Charts and pictures aid in the proper selection of this type of equipment. The booklet may be secured on request.

WORTHINGTON PUMP AND MACHINERY CORPORATION, Dept. FP, Harrison, N. J.

When inquiring specify FP6997 — see handy form pages 2-3

★

High Vacuum Re-solves Difficult Problems for Industry

High Vacuum In Industry is the title of an interesting 32 page booklet on high vacuum technique, applications, production facilities, and indicated direction of further progress. Properly, high vacuum may be considered to lie in the range .0000001 to 1 mm. Hg. For many years physicists have attained extremely low pressures in the laboratory and these valuable pressures are being translated into industrial practice at an accelerated rate. In them industry has a new tool with which to do many difficult things. Among them should be mentioned: the drying of heat sensitive materials as in the production of penicillin, the production of low reflection films through the evaporation of metallic salts, such as magnesium fluride, and other special applications. The booklet covers forepumps, diffusion pumps, condensers, vacuum valves, vacuum plumbing, gauges and controls, and concludes with a discussion of apparatus and equipment to be evacuated. The booklet contains many instructive pictures and drawings of system installations. A written request will bring complete information.

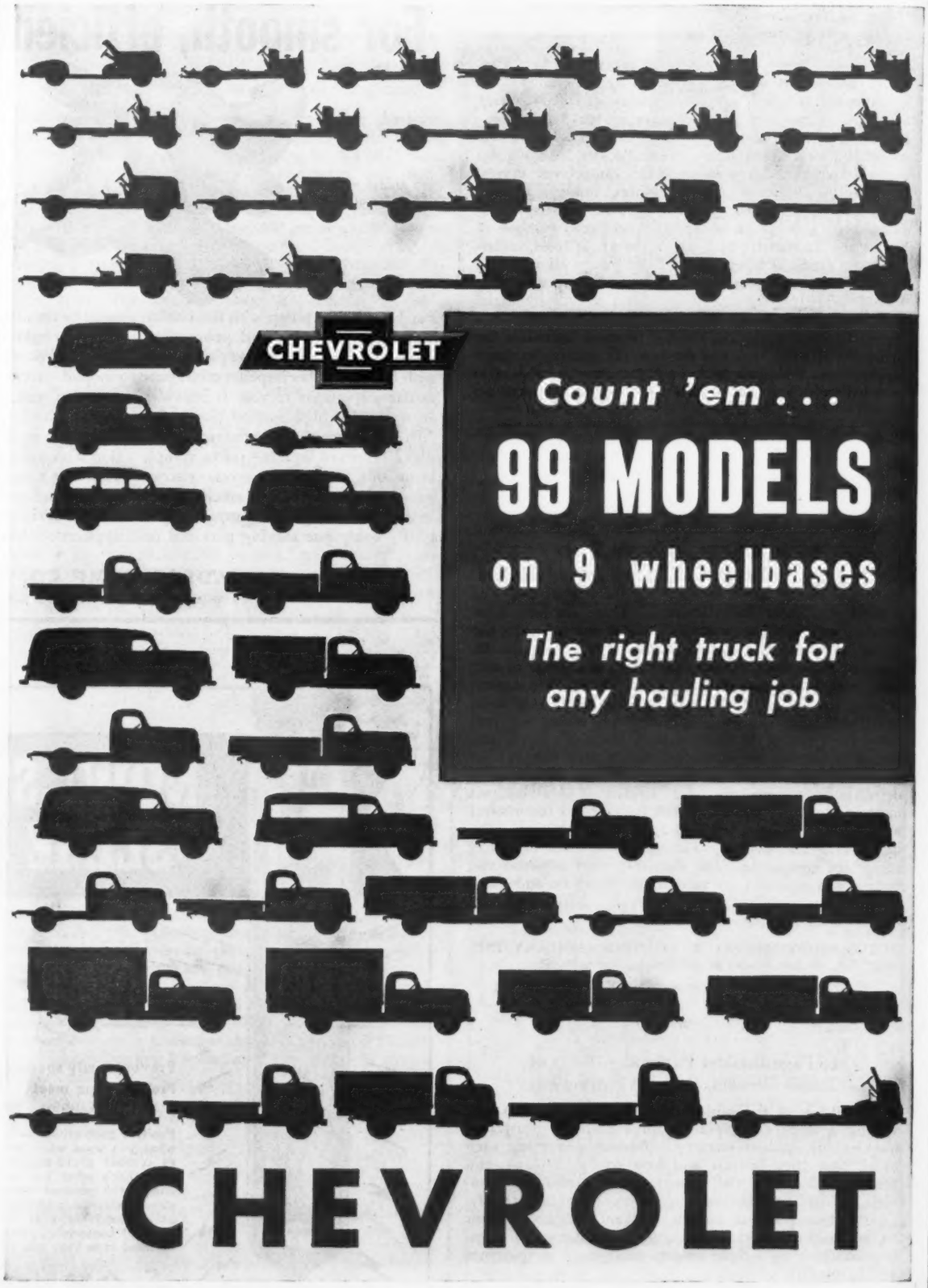
NATIONAL RESEARCH CORPORATION, Dept. FP, 100 Brookline Ave., Boston 15, Mass.

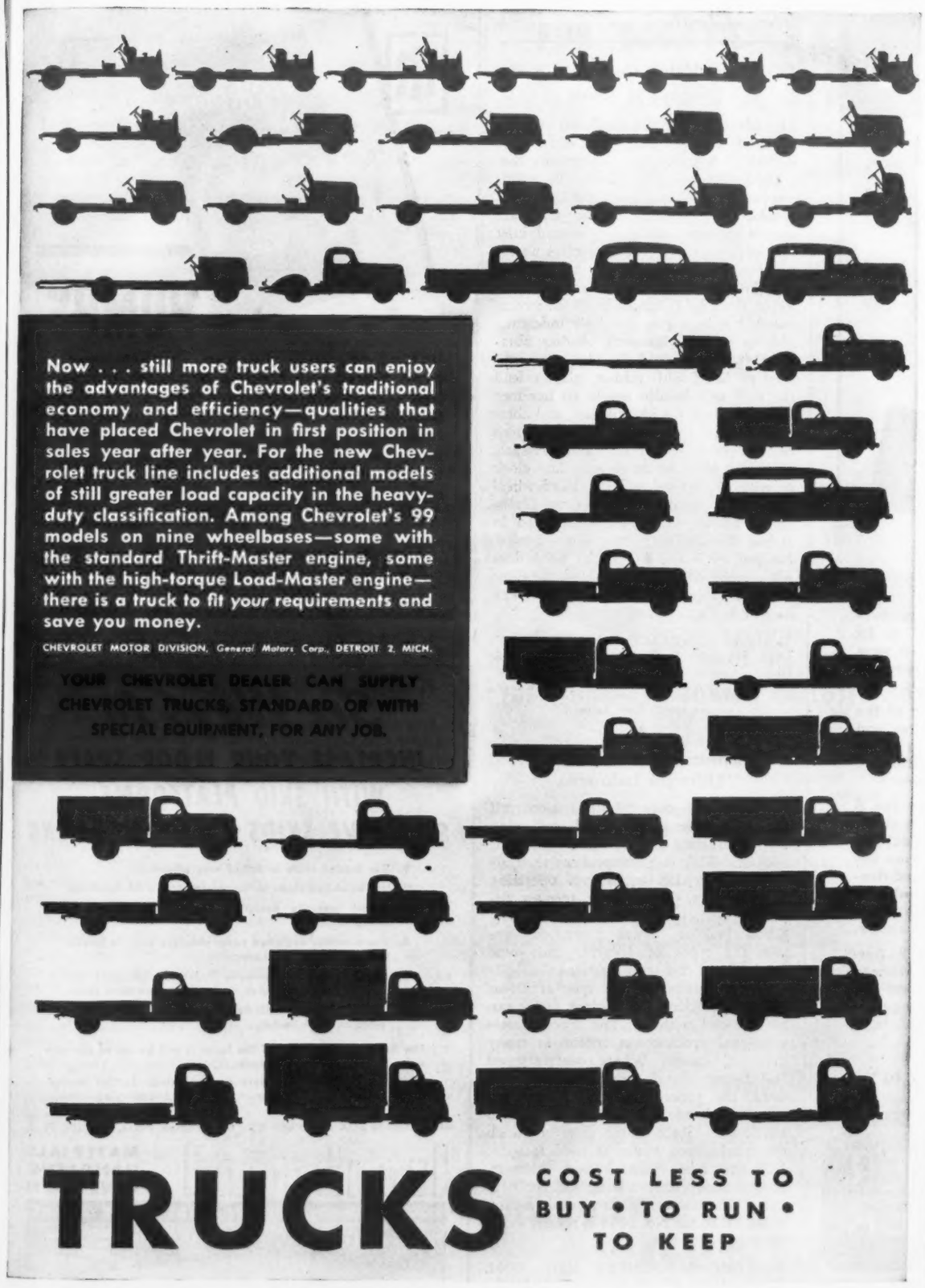
When inquiring specify FP6998 — see handy form pages 2-3

★

Six Fundamental Steps of Water Treating Service

Nearly all water used industrially must have some kind of treatment to keep it from forming scale and corroding the boilers in which it is used. A booklet describes the service one company in the water treating business offers. The service that the company sells consists in the main of six steps of endeavor to bring about satisfactory operating conditions within industry with respect to their water needs. The first step is a complete plant investigation and report on the conditions that exist. Information on boiler practice and specifications is completely reported. The second step is that of establishing proper plant control. Good boiler




Now . . . still more truck users can enjoy the advantages of Chevrolet's traditional economy and efficiency—qualities that have placed Chevrolet in first position in sales year after year. For the new Chevrolet truck line includes additional models of still greater load capacity in the heavy-duty classification. Among Chevrolet's 99 models on nine wheelbases—some with the standard Thrift-Master engine, some with the high-torque Load-Master engine—there is a truck to fit your requirements and save you money.
CHEVROLET MOTOR DIVISION, General Motors Corp., DETROIT 2, MICH.
YOUR CHEVROLET DEALER CAN SUPPLY CHEVROLET TRUCKS, STANDARD OR WITH SPECIAL EQUIPMENT, FOR ANY JOB.
TRUCKS
COST LESS TO BUY • TO RUN • TO KEEP

—When inquiring specify FP6999 . . . see information request blank, pgs. 2-3—

New Literature

water conditioning requires far more than the mere addition of certain fixed amounts of chemicals to the water. An outlined treatment is indicated. The third step consists of daily plant control tests. These are kept in chart form and the results recorded so that they may be reviewed by a central laboratory maintained by the service company. Any deficiencies that are revealed by this plant record as analyzed by service company chemists are brought to attention of the customer's management. The fourth step is one recommendation in which treatment is prescribed for the correction or the prevention of a condition. Step number five is a check analyses on samples sent in from the customer's plant. And the last feature of the service consists of frequent visits by the service company's engineers to the plant by which personal discussion and evaluations can be made of any water problem that may arise. After such a visit field recommendations are sent to the head office of the customer and if properly carried out should result in satisfactory water conditions being experienced in the plant. Literature on this subject is sent on application.

W. H. & L. D. BETZ, Dept. CP, Gillingham & Worth Sts., Philadelphia 24, Pa.

When inquiring specify FP7000 — see handy form pages 2-3

★

Power Ventilators Remove 45,000 Cubic Feet of Dust Laden Air per Minute per Machine

Power ventilation for industry is described in a four page folder. The type of equipment covered removes smokes, fumes, steam, dust and heat from industrial atmospheres. It is designed solely for power operation and its discharge will not, if suitably installed, return through open windows or doors. The chassis, motor, and propeller are completely assembled in one unit. This makes possible smaller over all dimensions for equal capacity units. Also it accomplishes transition from square to round construction and assembly in a minimum space. The proper application of power ventilation is discussed and engineering field service is offered. In a typical installation, 24 of these power ventilators are used and each one is capable of removing 30,000 to 45,000 cubic feet of air per minute in clearing smoke and fumes in non-ferrous foundry work. Complete information on this equipment will be sent those interested.

POWERMATIC VENTILATOR COMPANY, Dept. FP, 4019 Prospect Ave., Cleveland 3, Ohio.

When inquiring specify FP7001 — see handy form pages 2-3

★

Horizontal Rotary Oil Burner used with Many Types of Boilers

The features of a horizontal rotary oil burner are made clear in a 12 page bulletin. Cutaway drawings show construction details and charts indicate that the unit performs well under varied load conditions. Three major design features are offered, simple flame adjustment by means of the flame thrower unit, precision air-oil control with the use of the iris shutter and tear drop valve, and a pressure-type igniter in the automatic torch lighter. These three units are taken up at length and their construction and operation detailed. This rotary oil burner is well suited to many types of boilers. The booklet concludes with complete oil piping diagrams showing the boiler, the unit, and the fuel tanks. "Precision Combustion" will be sent on request.

YORK-SHIPLEY, INCORPORATED, Dept. FP, York, Pa.

When inquiring specify FP7002 — see handy form pages 2-3

INTRODUCING....

a new and larger MIKRO-ATOMIZER

New No. 8 MIKRO-ATOMIZER

The No. 8 MIKRO-ATOMIZER represents a new and larger production unit capable of producing ultra-fine powders as low as 1 to 25 microns (under 325 mesh) in size. Using a 75 h.p. motor, this new mechanical screenless pulverizer is particularly applicable to tonnage operations.

Although having almost four times the size and capacity of the No. 6 MIKRO-ATOMIZER, the new unit retains all the features and basic principles that have made these new type pulverizers so popular in a varied number of plants. Guaranteed control of particle size is offered as with the smaller machine.

No. 5 MIKRO-ATOMIZER for small quantity production, pilot plant and laboratory work.

Compact and highly efficient, the new No. 8 MIKRO-ATOMIZER discharges into a stainless steel dust collector. Rotary air lock for continuously discharging material from the cyclone, is supplied. A number of modifications of the No. 8 machine are available in order to accommodate the wide range of different materials for which it is recommended.

A new No. 8 MIKRO-ATOMIZER purchased for your plant can provide increased tonnage of ultra-fine powders. Send for your copy of new bulletin and arrange for a free test grind of your material in a MIKRO-ATOMIZER.

PULVERIZING MACHINERY COMPANY

63 CHATHAM ROAD • SUMMIT, N. J.

NOW... 2 TYPES TO MEET MOST PULVERIZING NEEDS

MIKRO-PULVERIZER (FINE) -ATOMIZER (ULTRA FINE)

Reg. U. S. Pat. Off.

When inquiring specify FP7003 — see handy form pages 2-3

New Literature

Diaphram Valve Operates in the Presence of Solids

The advantages of the diaphram valve to the trade is discussed in an eight page bulletin. A cutway drawin gshows that a tight shut off is unaffected by solids trapped on the seat. The tight shut off is obtained by pressing of the diaphram against the continuous seat around inlet side of weir. The valve requires no repacking, no reseating, has no stuffing box, and all moving parts are fully protected from fluids handled. With recommended linings it is practicaly indestructible in service with acids, alkalies, abrasives, food stuffs and the like. In semi-steel or lined with rubber, glass r lead the unit will handle nearly ao hundred different kinds f acids, alkalies, and abrasives. Special types may be operated from remote points by air or water pressure, either by hand or automatic time clock or with a pilot valve. The hand wheel type of diaphram valve does not freeze up or fill up with snow when used in carbon dioxide fire extinguisher service. No leakage is possible as the valve does not depend on accurately fitted metal-to-metal surfaces for closure. Bulletin 118 may be had on request.

McALEAR MANUFACTURING COMPANY, Dept. FP, 1901 S. Western Ave., Chicago 8, Ill.

When inquiring specify FP7004 — see handy form pages 2-3

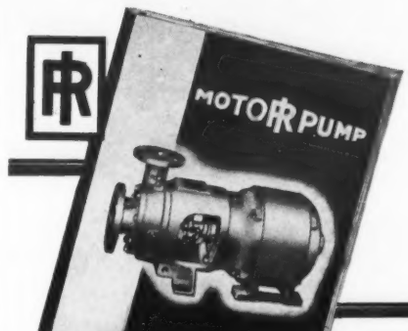
★

Synchronous Motors Serve 43 Different Industries

24 pages with over 50 illustrations tell the story of the selection and application of synchronous motors in a two-color booklet. This is a comprehensive treatment in everyday language of operating characteristics, power factor, torques, flywheel effect, speeds, excitation, starting KVA, braking, motor protection, five principal types of control, and some fundamental cost considerations. 43 different industries use this type of motor — good efficiency and power factor can be obtained with the low speed direct-connected synchronous motor in many drive applications. Where constant speed and better overall power-factor is desired, the general purpose, large high speed synchronous motor can be used to advantage. Some of the units on which the synchronous motor is used include: ball and tube mills, beaters, blowers, compressors, (reciprocating and centrifugal), plasticators, pumps, and rolling mills. Bulletin No. 1068 is readily available.

ELECTRIC MACHINERY MFG. COMPANY, Dept. FP, Minneapolis 13, Minnesota.

When inquiring specify FP7005 — see handy form pages 2-3



PUMPS

Ingersoll-Rand Company, a leader in the pump field, has a complete line of Motorpumps ranging from 1 to 40 horsepower, handling 10 to 1800 gallons per minute at heads up to 500 feet. Pick the pump to suit your needs from the performance chart in our new bulletin. The Ingersoll-Rand distributor in your area will be glad to give you a copy of Bulletin 7093 or you can obtain one by writing our nearest branch office.

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y.

9-672

When inquiring specify FP7006 — see handy form pages 2-3

Six Ways to

INCREASE YOUR FLOOR SPACE WITH SKID PLATFORMS, SEMI-LIVE SKIDS & FLOOR TRUCKS

1. **Tier loaded skids in out of way places.**
2. **Use semi-live skids to hasten car and truck loadings.**
3. **Install specially designed production-line skids to speed handling.**
4. **Use specially designed super structure units to handle two or three times as much.**
5. **Two or three conveniently "spotted" lift jacks will handle many semi-live skids—therefore save room.**
6. **Use removable-shelf floor trucks for parts usually piled on work tables.**

The faster a job is finished the faster it will be out of the way —on its way to the consumer.

Write for illustrated literature on Ironbound: 1. Cost saving, 2. Labor saving, 3. Space saving materials handling equipment.

IRONBOUND BOX & LUMBER CO., 60 Hoffman Place, HILLSIDE, N. J.

Ironbound MATERIALS HANDLING DIVISION

When inquiring specify FP7007 — see handy form pages 2-3

Revised Edition of "A Complete Course in Canning" Contains a Number of New Items

The seventh edition of A COMPLETE COURSE IN CANNING is a 382 page reference and summarily written work on the canning industry, its processes, equipment and products. The first chapter contains general directive information on plants, operational procedure, selection and the proper use of retorts and kettles, etc. The relation of the canning industry to the frozen foods, fresh vegetable and dehydration industries is considered. Chapter two is on vegetables with complete discussions as to selection and handling customs both before and during canning. Plant layouts for the handling of several different vegetables are discussed and shown diagrammatically. Washing, cooking, and sealing operations are individually treated for each vegetable covered. Cocktail ketchups, sauces, and pastes are taken up in this chapter. Fruits are written about next in chapter three. These include apricots, cherries, fruit cocktails, pears and peaches. Berries are also accorded extensive treatment. Syrups are first discussed. Then by individual item the various fruits are described from their growing seasons and localities to the final cooling and canning operation. Information on grading and storage is included where necessary. Canned juices are handled in chapter four and it is cited that in the past season over 40 million cases of citrus fruits alone were packed. Mechanical juice extractors are in use and special devices are used to remove the excess oil. It is pointed out that most juice is deaerated before canning which consists of a high vacuum operation with sudden heating and chilling. The canning of apple and grape juice is first considered and selection, pressing, filtering and clarifying are taken up. Grapefruit, kraut, orange, pineapple, and tomato juices follow and are considered from the standpoint of their complete processing involving the peculiarities of each process together with a general line of treatment designed to give concise information on what is considered good industrial practice. Chapter five deals with the fish industry which includes the processing of clams, crabs, lobsters, oysters and shrimp. Common and somewhat scarce varieties of fish are considered as are green and snapping turtles with recipes for canning unusual preparations from their meat. So called non-seasonal products, such as baked beans, soaked peas etc. are given treatment in chapter six. Cooking and canning information is included for tamales, spaghetti, onion and garlic powders. Chapter seven deals with meats, and at the outset, state and federal laws are mentioned with a word of caution as to their application. Meat jelly roast and pressed beef are discussed as are the preparations for mutton, veal, hams, sausage, chicken and game. Army rations and ham and egg preparations are considered. Soups have many different recipes which may be applied to them and chapter eight includes a number of successful ones. Chapter nine is given over to directions on the preparation of puddings. Chapter ten treats sweetened and unsweetened evaporated condensed milk. Preserves, jams and jellies are covered in chapter eleven while chapters twelve and thirteen treat pickles and specialties. Chapter fourteen on dog foods concludes this comprehensive treatise. Copies are available from the publisher at 10 dollars per copy. Kindly do not send remittances to this office but to the address below.

THE CANNING TRADE, Dept. FP, 20 S. Gay St., Baltimore 2, Md.

When inquiring specify FP7008 — see handy form pages 2-3

FOR TODAY'S TOUGHER JOBS, HERE'S A NEW TOUGHER MOTOR

WHERE IT'S WET Wet weather doesn't bother the new totally-enclosed Tri-Clad motor. Neither do frequent "washdowns" in food plants.

WHERE IT'S CORROSIVE Acids, alkalis, and fumes are kept out of these new Tri-Clads. Cast-iron enclosures are corrosion-resistant, extra strong.

WHERE IT'S DIRTY Dirt and dust can't get into these Tri-Clads to shorten their life. Smooth surfaces are convenient to clean.

WHERE IRON DUST FLIES Harmful iron dust and metal filings can't get past the inner wall. Bearings are protected from dust.

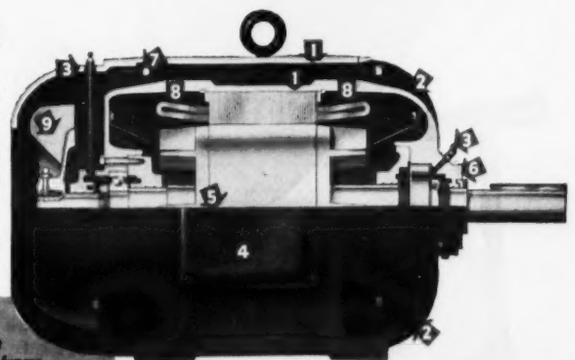
WHERE QUARTERS ARE CLOSE When space is limited for a totally enclosed motor, you'll like these trim, compact new Tri-Clads.

WHERE EXPLOSION HAZARDS EXIST The new Tri-Clad motors are available in explosion-proof constructions where needed.

THE G-E *TRI CLAD* TOTALLY ENCLOSED MOTOR

(1 TO 1000 HP)

In 1940 you welcomed the Tri-Clad open motor with it's *extra protection features*. More Tri-Clads have since gone into service than any other integral-horsepower motor. Now G.E. is ready with a new line of tough, totally enclosed Tri-Clad motors for use in adverse atmospheres. *We believe they are industry's most dependable motors*. Their longer life and lower maintenance will make them a sound investment on almost every job. Apparatus Dept., General Electric Co., Schenectady 5, N. Y.



10-POINT PROTECTION

1. A cast-iron, double-wall frame completely encloses and protects the windings and punchings.
2. Corrosion-resistant cast-iron end shields are machined to provide a tight seal, and protect the motor from dust, dirt, and moisture. Primer and finish coat of Glyptal* varnish affords high rust-resistance.
3. A pressure-relief greasing system, which can be packed with long-life lubricant, protects the bearings.
4. The cast-iron conduit box is diagonally split for easy wiring. Boxes are independently explosion-proof on Class I motors.
5. Nonshrinking compound around motor leads protects motor interiors from dust and moisture at the point where leads pass through the frame.
6. Rotating labyrinth seal further protects motor interior from damage by foreign matter.
7. Large air passages provide adequate protection from overheating. They're easy to keep clean and open, too.
8. Modern, "ageless" insulation treatment includes windings of "Formex magnet wire.
9. The powerful external fan is removable to simplify maintenance; nonsparking type in explosion-proof motors.
10. Individual dynamic balance of rotors and external fans protects against vibration hazards, even under severe operating conditions.

*Trade-mark Reg. U. S. Pat. Off.

FOR THE COMPLETE STORY

Apparatus Department, Section 750-279C
General Electric Company
Schenectady 5, N. Y.

☐ Please send me GEA-4400, which describes the new Tri-Clad totally enclosed motors.

☐ Please send me GEA-4131, "Motors and Control for Hazardous Locations."

NAME.....

COMPANY.....

ADDRESS.....

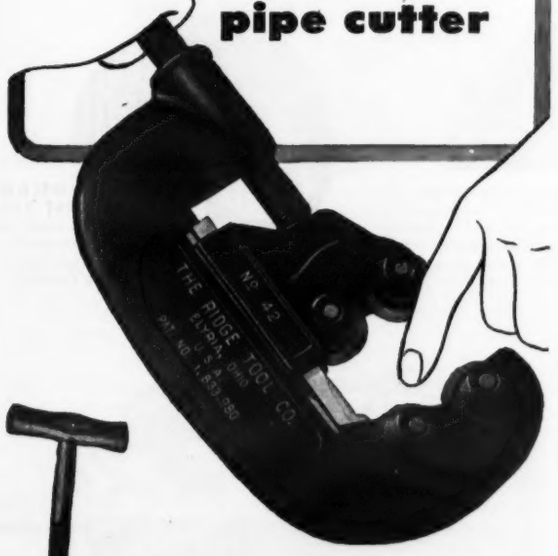
GENERAL ELECTRIC

When inquiring specify FP7009 . . . see information request blank, pgs. 2-3

Takes a lot of your work out of cutting pipe...this

fast-action 4-wheel

RIDGID pipe cutter



Good reasons why this 4-wheel RIDGID pipe cutter is such a favorite everywhere. It cuts pipe fast and clean with least effort. Designed with short handle to work in tight quarters, it cuts quickly even where you have room only for a quarter turn. Special malleable body assures alignment, it always cuts true—every cutter factory tested. You'll like this efficient worksaver RIDGID—ask for No. 42 (½" to 2") or No. 44 (2½" to 4") at your Supply House.

Regular Heavy-Duty RIDGID *Cutters in 5 sizes.*

RIDGID

WORK-SAVER PIPE TOOLS

THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U. S. A.

When inquiring specify FP7010 — see handy form pages 2-3

New Literature

Grease Interceptors — Models for Intermittent and Continuous Flow

Grease interceptors are discussed in a 14 page catalog. Industrial plants can obtain the maximum grease, fat, and oil inception only by control of the flow into the incepter. It follows that the rate of flow will be no greater than the maximum capacity of the intercepter at its maximum efficiency. Large quantities of fats and oils have been permitted to enter drainage lines and sewers in packing plants, abbatiors, rendering plants, dairies, ice cream manufacturing plants, bakeries, food specialty and other processing plants. Expensive repairs have usually followed such practices. The interceptors described are made in the proper sizes and types to operate efficiently. They offer positive protection against the hazards of grease clogged waste lines. Two general installations are made for industry. One is for locations where the flow is continuous or where operation is intermittent but for long periods. The other is for service of short duration at long intervals. Full description and diagrams are included in booklet-A which will be promptly sent those who request it.

JOSAM MANUFACTURING COMPANY, Dept. FP, Empire Bldg., Cleveland, Ohio.

When inquiring specify FP7011 — see handy form pages 2-3

★

Blenders Insure Uniformity of Product, and Mixers Have Proper Design for Efficiency

Ribbon mixers and dry blenders are described and their dimensions and specifications set forth in an 8 page booklet. On the heavy duty ribbon mixers, standard agitator design consists of both an outer and inner spiral conveyor, one right hand and the other left. The outer spiral conveys the material toward the discharge orifice while the inner or smaller diameter tends to propel the material away from the discharge or in the opposite direction to the outer conveyor. Pitch design of both the outer and inner conveyor, as compared to diameter relation of the inner to the outer spiral, determines the efficiency of the mixer. Several drive arrangements are offered. (1) Gear motor drive through gear and pinion or roller chain. (2) Gear motor drive direct on mixer shaft. (3) Tight and loose pulley direct on mixer shaft. (4) Tight and loose pulley through gear and pinion or roller chain. Blenders feature a maximum blending efficiency per spin of the tumbler and the greatest allowable number of spins per unit time. Diagrams are complete in their description of the structural features of the several designs offered. Bulletin No. 112 is sent on request.

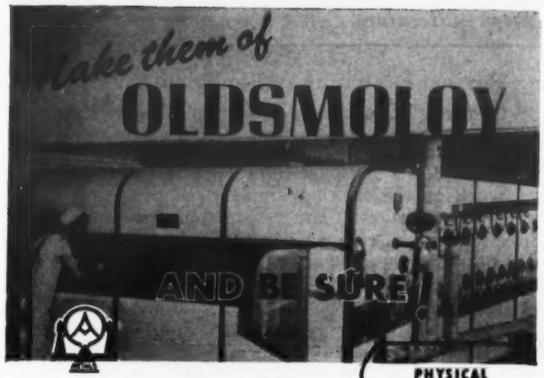
INTERNATIONAL ENGINEERING, INC., Dept. FP, Dayton, Ohio.

When inquiring specify FP7012— see handy form pages 2-3

★

Overhead Chain Conveyors Increase Capacity

Stockrooms, warehouses, packing and shipping departments in particular will want this booklet on overhead chain conveyors. General manufacturing operations can also greatly profit by the use of this type of equipment. The conveyors are adapted to old as well as new plants. The conveyors systems offered are designed to interlock and produce a smooth flow of materials through all operations. In one installation not only were thirty or more stations of manufacture progressively serviced by the overhead conveyor, but automatic processing on the conveyor was actuated at some of the stations. Many



THIS strong, white chrome-nickel bronze possesses corrosion resisting qualities and shock-strength that permit its use successfully in food machinery parts and chemical handling equipment subject to corrosive action and abrasive wear. It is non-magnetic and can be readily welded.

PHYSICAL CHARACTERISTICS

Tensile Strength-psi 70,000 to 76,000

Elongation in 2" -% 15 to 20%

Reduction in area -% 21.70

Proportional Elastic Limit, with Berry Strain Gauge-psi 25,150

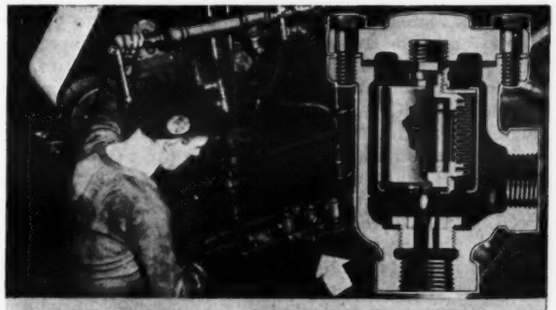
OLDS ALLOYS Co.

SOUTH GATE, CALIFORNIA

Suburb of Los Angeles

Write for NEW Bulletin

When inquiring specify FP7013 — see handy form pages 2-3



THE STEAM TRAP for HEAVY STEAM USERS

In process work, cooking time is governed more by air venting than trop capacity or speed. Actual output of cooking and similar equipment will be greatly increased.

The new No. 9 will operate almost as fast as a bucket trap—but have full capacity at condensate temperatures within 20 degrees of the steam. It is thermostatic trap efficiency with bucket trap capacities — a whole new field of applications for the No. 9.

Like other No. 9's, this trap is wide open when cold. It can't freeze. It requires no seat change when pressures change. It is small, inexpensive and easy to install. Ask for Bulletin No. 250.

199

SARCO SAVES STEAM

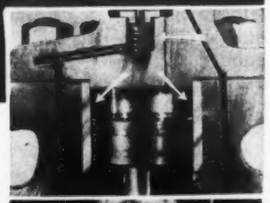
SARCO COMPANY, INC.
475 Fifth Avenue, New York 17, N. Y.
SARCO CANADA LTD. 85 Richmond St W. TORONTO 1 ONT

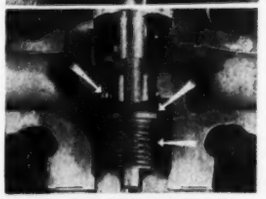
When inquiring specify FP7014 — see handy form pages 2-3

TRADE LESLIE MARK

Exclusive Features —at no extra cost!

- STELLITED SEAT RINGS
- STAINLESS STEEL 800 BRINELL MAIN VALVES
- CORROSION RESISTANT SPRINGS
- HARDENED STAINLESS STEEL CYLINDER LINERS





Supplied as *standard equipment* in LESLIE Pressure Reducing Valves, Pressure Controllers, Pump Governors, Temperature Regulators for Steam services.

Write for Bulletin 461.

ESTABLISHED 1900 LESLIE CO.

258 GRANT AVE., LYNDHURST, N. J.

PRESSURE REDUCING VALVES · PRESSURE CONTROLLERS
PUMP GOVERNORS · TEMPERATURE REGULATORS
SELF CLEANING STRAINERS · LESLIE-TYFON WHISTLES

When inquiring specify FP7015 — see handy form pages 2-3

Protect Clarity of Bottled Products with POROUS STONE STRAINERS

Showing Strainer Head removed...from a 3-Filterstone unit of 15 gpm capacity. Discs are 7½ inch diameter.

A LeVal Porous Stone Strainer placed just ahead of the bottling machine removes all lint, pipe scale, chips, and other particles which may contaminate your product after filtering.

Rigid LeVal Filterstones withstand acids and high temperature. Cleaned in a few minutes by backwashing or spraying. Write us for details.

LEVAL FILTERS
WHITING CORPORATION
District engineers in 26 principal cities
15618 Lathrop Ave. Harvey, Illinois

When inquiring specify FP7016 — see handy form pages 2-3

New Literature

of these types of installations have been called "traveling stockrooms." Stock is available for immediate use in assembly or order filling without trucking or needless handling. Ceiling transportation, as the use of this equipment is called, takes empty carton or other object handling off the floors and out of the aisles and space efficiency is thereby increased. A 1600 ft. conveyor is described that requires a 3 hp. motor and operates for as little as 10 cents an hour. The carriers are shown in pictures of the installation to ride in a level position whether ascending or decending. The power unit for these systems is fully covered in the booklet, available on request.

LAMSON CORPORATION, Dept. FP, Syracuse 1, N. Y.

When inquiring specify FP7017 — see handy form pages 2-3

★

Handbook on Fluid Measurements is Storehouse of Fundamental and Reference Information

151 pages, 38 figures and 55 tables form a handbook that provides basic and reference information on fluid measurement. This fluid flowmeter handbook offers complete yet concise treatment of fluid measurement, including related factors, equipment, equations and computations in terms of steam, water, oil, and gas flow. Derivations of formulae include those of a universal formulae for fluid measurement with thin plate orifice, practical working equations, and the Reynolds Number Recommendations of the Joint American Gas Association-American Society of Mechanical Engineers' Committee on fluid measurement for orifice installations are included. Separate chapters have been devoted to compressibility of gases, orifice calculations for various fluids, steam and gas flow, and the application of correction factors. Discussed by chapters are: orifice meter measurement, orifice plate and differential connections, flow approximation tables, derivations of working formulae, working equations, and the relationship between coefficient and Reynolds Number. Summary of equations and nomenclature and volume computations conclude this highly desirable book on this fundamental subject. The Flow Meter Engineering Handbook is available from the subject company at $2.50 per copy. Send no remittances to this magazine but to the address below.

THE BROWN INSTRUMENT CO., Dept. FP, Philadelphia, Pa.

When inquiring specify FP7018 — see handy form pages 2-3

★

Pumps of from 10 to 52000 GPM. Available for Numerous Services

A 20 page booklet discusses pumps ranging in capacity from 10 GPM to 52,000 GPM. The pumps covered include: boiler feed and pressure pumps, centrifugal, centrifugal stock, duplex automatic pumps and receivers, horizontal duplex, horizontal single, liquer, machine or jordon chest, multi-stage balanced type centrifugal, single stage double suction, steam heat vacuum, tank and light pressure, and vertical duplex and single piston pumps. Specifications and dimensions are included in table form. Drawings show construction features. "Pumping Machinery" is the title of this informative booklet which is available to those interested.

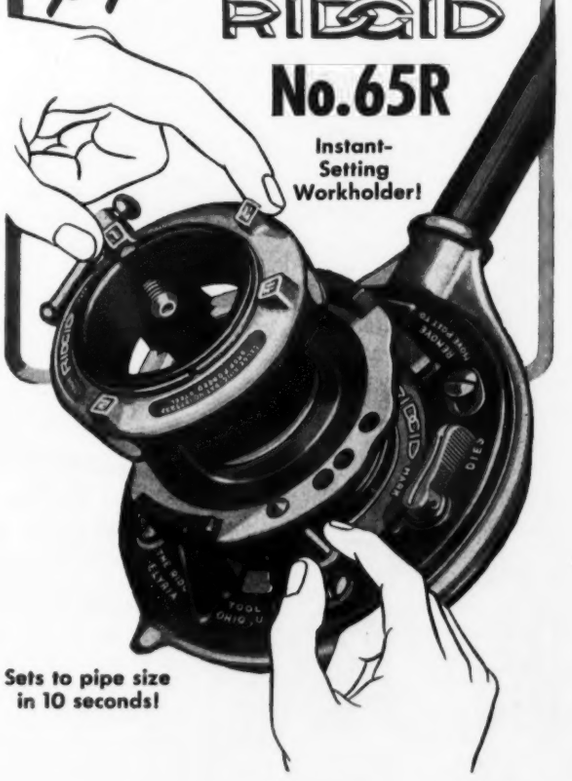
WARREN STEAM PUMP COMPANY, INC., Dept. FP, Warren, Mass.

When inquiring specify FP7019 — see handy form pages 2-3

Gives you a new idea of quick easy *pipe threading*

RIGID No. 65R

Instant-Setting Workholder!



Sets to pipe size in 10 seconds!

This popular No. 65R cuts perfect threads on 4 sizes of pipe, 1" to 2," with 1 set of high-speed steel chasers — no changing, no loose dies to carry or lose. And it sets to pipe size in a mere 10 seconds! A turn of the cam plate sets the workholder to size instantly . . . one screw to tighten on pipe, no bushings to bother with. Many other worksaver features you like in this rugged precision-made tool. See No. 65R at your Supply House.

RIGID No. 65R stands up handily on its own feet.

RIGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL COMPANY · ELYRIA, OHIO, U. S. A.

When inquiring specify FP7020 — see handy form pages 2-3

ANOTHER DIVIDEND for PENNSYLVANIA SUGAR

PENNSYLVANIA SUGAR COMPANY
1037 NORTH DELAWARE AVENUE
PHILADELPHIA 25, PA.

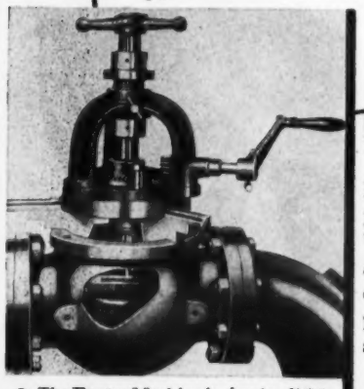
February 5th, 1946

Gentlemen:

No doubt you will be interested to know that the Dexter Valve Reseating Machine which we purchased from you seventeen years ago has reseated thousands of valves thru-out the plant ranging in sizes from 1" up to 16".

It is with pleasure I take this opportunity of advising you that this reseater has proven most satisfactory to us as a time and money saver.

Sincerely,
N. Smith
Plant Engineer



● The Dexter Machine is simple. With it, *one man* reseats worn and leaky valves right on the line. No removal, no replacement, and only a few minutes needed to do it. No matter where you use valves, you need Dexter Valve Reseating Machines and Cutters — the outfit that converts an expense into a paying investment. Send the coupon today.

V-5

Dexter Valve Reseating PAYS OFF!

Here is *absolute proof* of year after year savings from the use of Dexter Valve Reseating Machines. Long ago the small investment in Dexter equipment was paid off in valve expense saved, production time gained and headaches averted.

Now Pennsylvania Sugar Company actually chalks up a *profit* — a *dividend* — earned by the Dexter Machines it owns.

Read their letter — it presents facts vital to your maintenance budget.

Jobbers Wanted

IF YOU CAN'T SEND AN ORDER - - - - SEND YOUR PROBLEM

The Leavitt Machine Company
150 E. River Street
Orange, Mass.

Please send me your free new folder on "The Cost of Leaky Valves."

*Name*_____
*Title*_____
*Firm*_____
*Address*_____

THE LEAVITT MACHINE COMPANY • ORANGE, MASS.

AUTOMATIC AIR SEPARATORS
DRAINS • LATHE CHUCKS

Dexter VALVE RESEATING MACHINES

When inquiring specify FP7021 — see handy form pages 2-3

New Literature

Guide Points Way to Low Bacteria Counts in the Egg Breaking Industry

A compound designed to meet most problems of sanitation in the egg industry is described in a four page bulletin. This product is an outstanding development in the bactericidal detergent field and was expressly formulated for the egg breakers and dryers. It is a complete sanitizing agent. High germicidal potency with unusually effective detergent and emulsifying properties is offered. Equipment life is prolonged and maintenance is simplified. Used as a rinse, spray or dip, thorough control of bacteria is assured. It cleans disinfects, and protects hands without danger of skin irritation when used as directed. A chart in the booklet contains application procedures and other pertinent information. Request bulletin No. E-2.

THE EMULSOL CORPORATION, Dept. FP, 59 E. Madison St., Chicago, Ill.

When inquiring specify FP7022 — see handy form pages 2-3

★

Instruments and Control Components Provide Fine Point Regulation in Process Plants

Instruments and controls for the process and food industries are covered in an informative 8 page booklet. Process controllers, control components, measuring components and instrument combinations receive illustrative treatment. Application data such as sizes, pressure standards and ranges are listed for the various components. Typical control systems of the single and also the multiple type are shown. A standard recorder-controller is furnished for temperature, pressure, flow, level, density, ratio, per cent oxygen and for per cent combustibles. Various measuring circuits used with the instruments described may be arranged so that the instruments record computed results based on several measurements. Ratios, products, sums, and differences may be automatically and continuously recorded so that process information is obtained in the form of news rather than history. Bulletin 17 is available to interested parties.

BAILEY METER CO., Dept. FP, 1050 Ivanhoe Rd., Cleveland 10, Ohio.

When inquiring specify FP7023 — see handy form pages 2-3

★

Emery Flooring Offers Nine Advantages to Plant Owners; Eases Trucking Conditions

A four page bulletin describes nine better flooring features that result from the application of emery flooring to industries such as the dairy and creamery industry. This flooring is made of an aggregate to which only cement and water are added. Material for the composition is scientifically selected, crushed and graded into rough shaped sizes which form the entire aggregate. It has a natural clinging affinity for cement. The flooring will withstand heavier loads, has unusual wearing qualities, does not chip or crack, and is non-skid and dustless. It will also withstand both moisture and heat conditions and is resistant to oil and greases and most commercial acids. It can be easily laid by maintenance crews or local contractors. Bulletin 602 on this material is promptly sent anyone requesting it.

WALTER MAGUIRE CO., INC., Dept. FP, 330 W. 42nd St., New York 18, N. Y.

When inquiring specify FP7024 — see handy form pages 2-3

"You CAN take it with you"..

if it's a

BROOKFIELD SYNCHRO-LECTRIC VISCOSIMETER

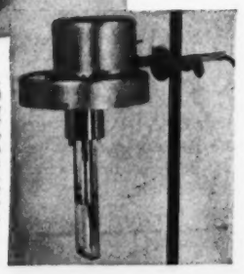
Making Viscosity tests at point of process is a snap with the Brookfield Viscosimeter. All you need is a convenient electrical outlet and you're set to take readings of high accuracy in 30 seconds.

Readings given directly in centipoises over wide ranges. Temperatures up to 600 F. No adjustments necessary. Requires no technical skill.

PORTABLE!

USE IN PLANT OR LAB

Same instrument can be used in both plant and lab Use as a portable instrument shown at left Operates on 60 cycle 110 volt current



When instrument is needed for stationary use only it may be mounted on a rod clamp as shown at right. Handles are interchangeable.

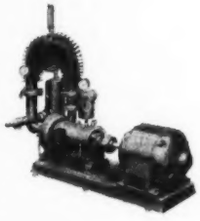
BROOKFIELD
ENGINEERING LABORATORIES
BOX 603-P, SHARON, MASS.

When inquiring specify FP7025 — see handy form pages 2-3

FASTER HEAT PRACTICALLY DOUBLED PRESERVE OUTPUT

By Thorough Elmination of Condensate from Kettles and Return to Boilers at High Pressure

By speeding up cooking time through use of the Cochrane C-B System, a preserve manufacturer not only DOUBLED his former production, but effected extraordinary fuel savings. Before installation of the C-B System, cooking time was up to 12 minutes. Maximum cooking time now is ONLY 6 MINUTES.
This is typical of the results being obtained in the food industry by users of the Cochrane C-B System of High Pressure Condensate Return. Because there is NO FLASH LOSS in the CLOSED system of high pressure condensate return, faster heat, more uniform heat, increased boiler capacity and remarkable fuel savings are assured.



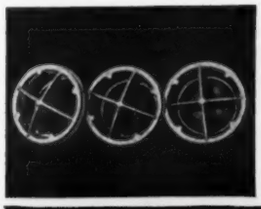
Write for a copy of Publication 3250.

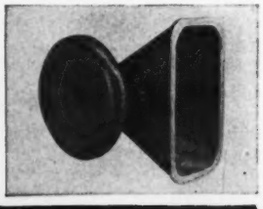
COCHRANE CORPORATION, 3147 N. 17th Street, Phila. 32, Pa.

COCHRANE C-B SYSTEM

CONDENSATE RETURNED TO BOILERS AT HIGH PRESSURE AND HIGH TEMPERATURE

When inquiring specify FP7026 — see handy form pages 2-3





Stainless & Alloy Steel Castings for Modern Requirements!

Experience symbolizes progress. Atlas foundrymen having pioneered many of the revolutionary casting methods in use today, have the experience so necessary to meet modern requirements. Complete facilities for casting all analyses alloys for all purposes—under the direction of skilled metallurgists—assure you of the finest in stainless and alloy steel castings. Our illustrated 8 page bulletin 45 is available, now. Write for it!

ATLAS STAINLESS STEEL CASTING
DIVISION
ATLAS FOUNDRY COMPANY
525 LYONS AVENUE IRVINGTON 11, N. J.

When inquiring specify FP7027 — see handy form pages 2-3

New Literature

Packing Prevents Damage To Sealing Materials

T-Ring Packing is discussed in a booklet that points out various features. This packing consists of a resilient sealing ring of synthetic rubber in a T-section packed up by two non-extrusion ring retainers. When the operating pressure is increased the flange of the T-packing expands radially against the non-extrusion rings. This action holds it in contact with the surface of the cylinder or piston rod. The sealing material is prevented from being damaged by extrusion into the clearance space between the mating parts. The packings are well illustrated in this booklet which is available on request.

THE WEATHERHEAD COMPANY, Dept. FP, 300 E. 131 St., Cleveland 8, Ohio.

When inquiring specify FP7028 — see handy form pages 2-3

★

Chilled Water Unit Combines High Tonnage, Low Upkeep

Illustrated folder describes Jensen "Short Gas Flow" Industrial Chilled Water Unit for furnishing any desired capacity of 32-degree water instantly without icing. High refrigerant back pressures permit reduced compressor power cost and increased tonnage. Diagram and text describe patented "Short Gas Flow" cooling principle. Two views of potential 150-ton industrial chilled water unit. Provisions for building original unit to receive increased capacities at later dates are explained. For chilling water, metal churns, storage, vacuum or atmosphere, also fan coolers. Write for Bulletin No. 48A.

JENSEN MACHINERY COMPANY, Inc., Dept. FP, Bloomfield, N. J.

When inquiring specify FP7029 — see handy form pages 2-3

★

Portable Electric Tools Useful on Construction and Maintenance Jobs

Electric hammers, drills, screw drivers and nut runners, grinders, sanders, hacksaws, and die grinders are described in a 40 page catalog. It is pointed out that in computing the cost of drilling in concrete it is frequently necessary to include the cost of many high pay men who have to be held up while the work is in progress. Dimensions and many accessories are listed in this booklet No. 464 which is available on request.

SYNTRON COMPANY, Dept. FP, Homer City, Pa.

When inquiring specify FP7030 — see handy form pages 2-3

YOU GET ALL THESE PLUS QUALITIES in a

CASE EMULSIFIER-HOMOGENIZER!

***MIXTURES, DISPERSIONS, HOMOGENIZATIONS**

Mayonnaise
Dressings
Spreads
Peanut Mixes
Sauces
Mustard
Toppings
Icings
Flavorings
Extracts
Infants' Foods
Ice Cream Premixes

And every other type of product requiring perfect emulsifying - homogenizing.

EVERY 5 minutes (or less, depending upon the type of your product) one operator can produce 25 to 30 gallons of a perfect end product in a Case Emulsifier-Homogenizer...360 gallons an hour. The entire process is governed by manually operated valves and a switch button. There are no beaters—no kettles. Emulsification is achieved by cycled forced flow of ingredients through the patented emulsifying-homogenizing devices. Because of its scientific design, the Case unit produces products of definite uniform dispersion—velvety smoothness of body—with a pronounced firmness and high stability that resist the hazards of transportation, handling, storage and shelf life.

Write for Bulletin

Field Engineers Available

A. T. CASE CO. 1519 S. CALIFORNIA AVE. **MONROVIA, CAL.**

When inquiring specify FP7031 — see handy form pages 2-3

VIBRATION TEST
by Hydraulic Equipment Manufacturer

Wins Approval
for SUPERSEAL
Flared Tube Fittings

Unretouched photo of fittings and tubing after test.

"After 2,000,000 vibrations . . ¼" throw, 1800 vibrations per minute, *2000 pounds pressure* . . SUPERSEAL fittings were still in perfect condition. There was no leakage or tendency of tube seats to break down."

Superseal Assures You...

★ Easier flaring of tubing especially in large sizes.

★ Leakproof joints even under maximum vibration and pressure.

★ Repeated disconnections without injury to tubing.

Features

Long, smooth, tapered, 10° flare on SUPERSEAL fitting and corresponding flare on inside of self-aligning nut holds tubing securely in place.

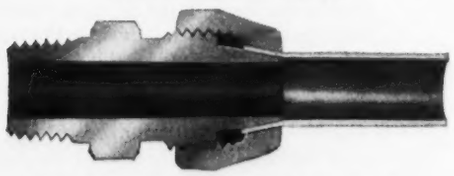
Materials . . . stocked in steel. Malleable iron, brass, aluminum or alloys on special order.

No shearing action to injure the tubing at the point of flare when the nut is tightened – instead, the tubing is actually strengthened.

Two-part fitting . . . no rings, no sleeves.

Tubing bends can be made close to fitting.

Approved by Underwriters' Laboratories for all hazardous gases and liquids



GRINNELL COMPANY, INC.

Executive Offices: Providence 1, R. I.

Branch Warehouses in principal cities.

GRINNELL

WHENEVER **PIPING** IS INVOLVED

When inquiring specify FP7032 — see handy form pages 2-3

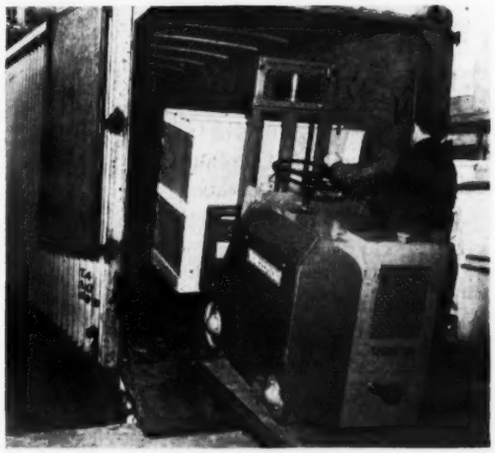
Equipment for Production

Lift Truck Has Side Mounted Motor

Designed to carry and lift loads up to 2000 *pounds in previously inaccessible places*

Uses — This model will lift and carry loads up to 2000 pounds in areas previously inaccessible to lift truck operation such as tight aisleways, elevators and the crowded confines of highway trucks and freight cars. It stacks loads up to 1500 lbs.

Features — Its weight of only 2800 pounds makes operation possible on two ton capacity elevators and in multi-story buildings with low to medium load limits. Unique design places the operator at the side of the power unit and makes it easy for him to get on and off. Wheel base length is 35 inches.



Lifting and tilting mechanisms are hydraulic

Description — Two wheels on the steering axle achieve a short turning radius without sacrificing safety or stability. Engine, transmission and axle units are designed for easy access. Quick removal of a side panel permits all electrical and carburator adjustments. Clutch replacement is possible without the removal of either engine or transmission. Lifting and tilting mechanisms are hydraulic. Literature may be secured by writing.

TOWMOTOR CORPORATION, Dept. FP, Cleveland, Ohio.

When inquiring specify FP7033 — see handy form pages 2-3

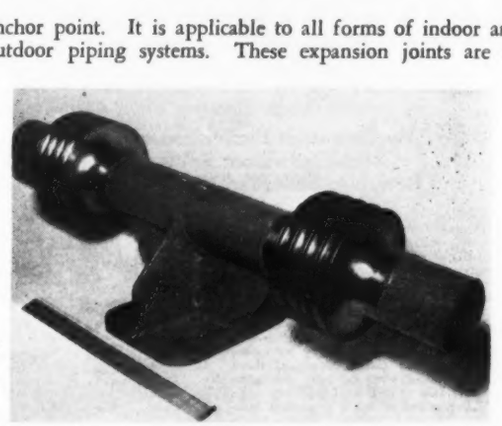
★

Packless Expansion Joints Aid Pipe Installations

Combines rigid anchoring of piping with necessary flexibility

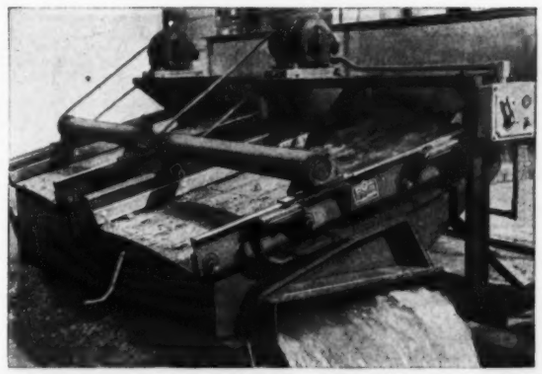
Uses — To allow for the unequal thermal expansion or contraction and hydraulic surges in piping.

Features — This type of joint combines rigid anchoring of piping at accessible points with allowance for unequal thermal expansion and contraction on either side of the anchor point. It is applicable to all forms of indoor and outdoor piping systems. These expansion joints are of the packless type and action is obtained by varying the number of bellows flanges on either side of the anchor base.



Relieves dimensional effects of ambient temperatures in pipes

Description — Joints are made for standard pipe sizes from ½ to 24". Expansion flanges are supplied from any one of the standard 25, 55, 150, 400, or 1000 pound series, to accommodate all pressures from vacuum to 1000 pounds per square inch. Joints of stainless steel, monel,



Save Foods Otherwise Wasted . . .

This L-B Vibrating Screen Does It

The dual screen unit pictured reclaims tomato pulp, beans and peas formerly wasted. Now they are valuable by-products — feed and fertilizer. This user has 10 screens in service . . . similar screens, of various metals and meshes, are separating solids and liquids in many kinds of plants — reducing stream pollution and creating profits for alert processors. Why not investigate?

LINK-BELT COMPANY

2045 West Hunting Park Ave., Philadelphia 40

Offices in principal cities

WRITE FOR BOOK NO. 1977

10,398

LINK-BELT Vibrating SCREENS

When inquiring specify FP7034 — see handy form pages 2-3

inconel, and copper cover all commonly met corrosive conditions. Temperatures handled range from —300° F. to 1600° F. A variety of standard fittings such as elbows, tees, ells, and Y's can be incorporated into the joints to make a single, compact, accessable unit. Welding ends are regularly supplied with pipe flanges and inner linings are optional. Further particulars may be applied for.

COOK ELECTRIC COMPANY, THE MAGNILASTIC DIVISION, Dept. FP, 2700 North Southport Ave., Chicago 14, Ill.

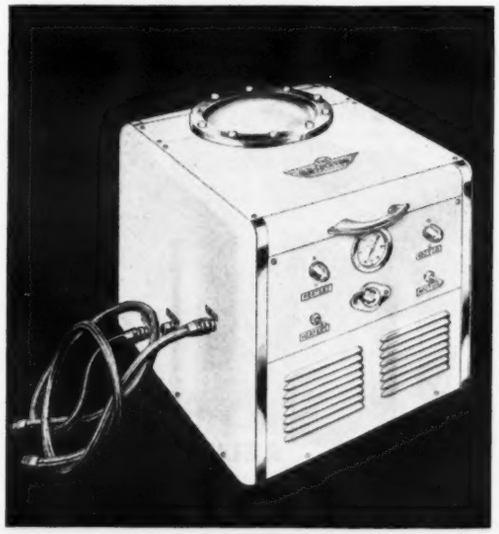
When inquiring specify FP7035 — see handy form pages 2-3

*

Flavorator Purifies Oils and Fats for the Food Industry

Is ideal for conditioning oil used in the deep frying of sea foods

Uses — In the purification of oils and fats used in cooking and deep fat frying.
Features — It is completely automatic, removes food particles, keeps acidity low, and improves color, flavor and odor in oils and fats used in the cooking and processing of foods. This unit keeps oil clean, prevents excessive smoking and acroleine fumes, removes odors, and insures better tasting preparations. It also eliminates residues that gum up equipment and increase maintenance costs.
Description — The model offered is 15" wide, 16" long,



Compact size and light weight permits use in confined spaces

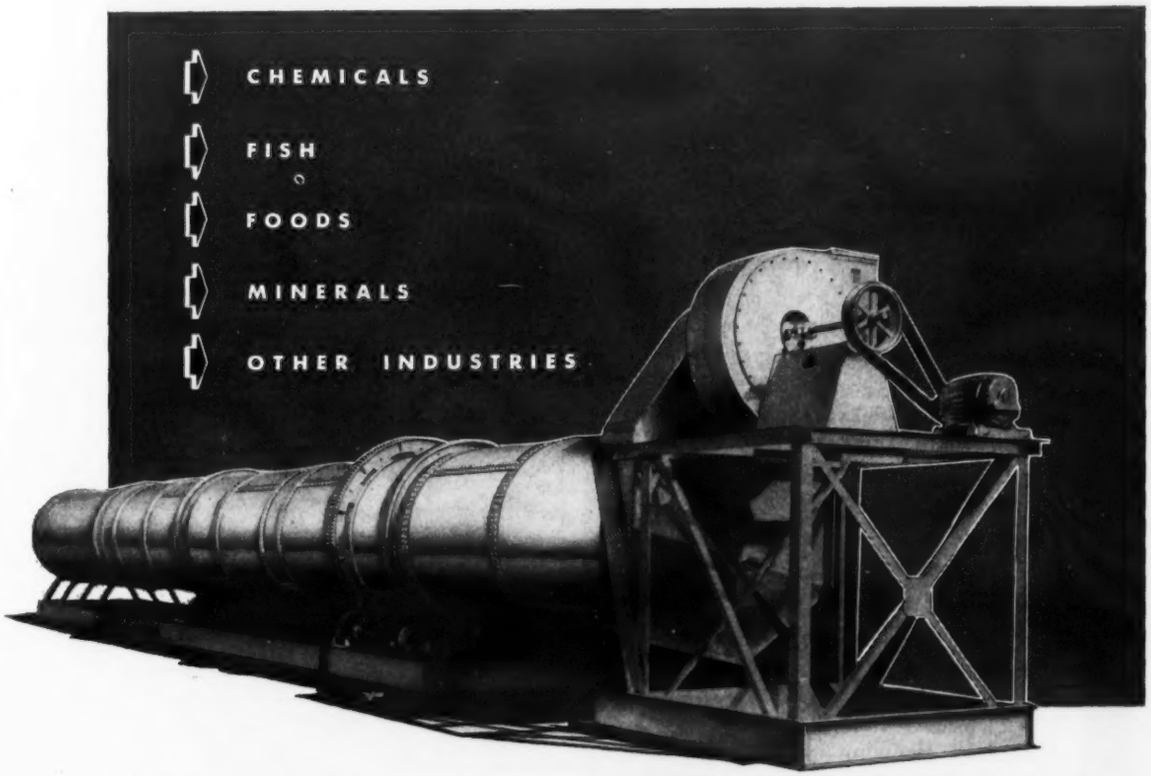
and 15½" high. There are only two switches to throw and one valve to set for operation. Signal lights indicate the correct temperatures. Purifying elements are complete cartridge type refills. Cabinet is white enamel with chrome plated lid, and comes equipped with two four ft. lengths of flexible metal braid hose. It is powered with a ¼ hp. motor. Capacity is 20 to 30 gallons per hour. Detailed information on the set is available.

HONAN-CRANE CORPORATION, Dept. FP, 708 Wabash Ave., Lebanon, Ind.

When inquiring specify FP7036 — see handy form pages 2-3

Extremely accurate process control

with *ENTERPRISE* continuous rotary dryers.



To fill the exacting requirements of processors, ENTERPRISE Continuous Rotary Dryers embody the finest in design, construction and materials—as specified by years of engineering experience. Controlled operating temperatures are maintained continuously throughout the entire length of the Dryer from feed to discharge. Capacities range from a few to many tons per hour. Furnished in standard models and sizes or built to specifications. Stainless steel, nickel and monel metals employed for special applications. Full details on request.

OUR 1886 — 60th — YEAR 1946

AVAILABLE IN THREE TYPES

STEAM-JACKETED BATCH DRYERS
Types: Revolving Central Shaft
Revolving Shell
Size: 4' to 5' in Diameter
16' to 20' in Length

CONTINUOUS ROTARY STEAM TUBE DRYER
Size: 5' to 9' in Diameter
50' to 70' in Length
Steam Pressure
50 - 100 lbs./sq. in. guage

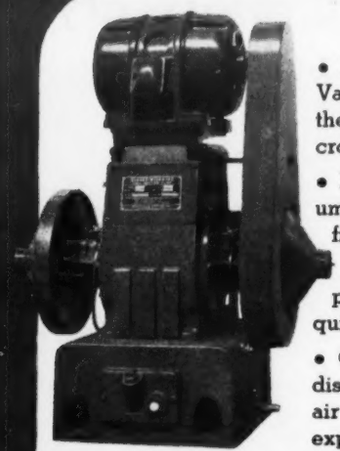
DIRECT HEAT DRYERS
Size: 5' to 8' in Diameter
50' to 60' in Length

PROCESS MACHINERY DIVISION
OF
ENTERPRISE
ENGINE AND FOUNDRY CO.
SAN FRANCISCO 10, CALIFORNIA
OFFICES IN PRINCIPAL CITIES

When inquiring specify FP7037 . . . see information request blank, pgs. 2-3

Stokes MICROVAC Pumps

HEART OF HIGH VACUUM SYSTEMS



- Higher Vacuum (in the low micron range)
- High volumetric efficiency
- Low power requirement
- Complete discharge of air—no re-expansion
- Continuous dehydration of oil—no moisture to re-evaporate
- Discharges sudden slugs of liquid without injury
- Easily accessible, non-corrosive discharge valve
- Rugged, compact, simple construction
- Long life . . . negligible maintenance
- Five sizes—from 10 to 235 cu. ft. per min.

Stokes VACUUM GAUGES

(Patented McLeod Type)

Are Always Accurate

- Require no calibration
- Rapid readings
- Simple to operate—just tip and read
- Two models—(AA)—0 to 5000 microns (BB)—0 to 700 microns, with readings to 1/10 micron.

F. J. STOKES MACHINE CO.

6030 Tabor Road, Philadelphia 20, Pa.

Stokes High Vacuum

PUMPS • GAUGES • EQUIPMENT

When inquiring specify FP7038 — see handy form pages 2-3

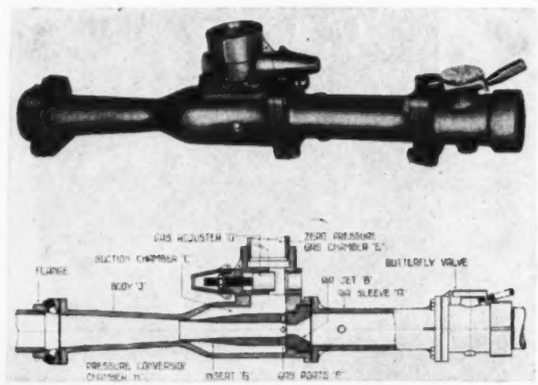
Production

Constant-Ratio Mixer Has High Efficiency

Available in pipe sizes from ¾" to 4" and suitable for 550-3200 BTU gas

Uses — For any industrial process equipment requiring gas firing this mixer is the first of a series of gas combustion elements.

Features — The Flomixer utilizes the energy of a stream of air at pressures up to 3 lbs. to entrain a combustible gas and to deliver the mixture at unusually high pressure to the burners. Accurate gas-air proportions are maintained at all rates of flow, as long as zero pressure gas is supplied.



Cross-sectional view of Flomixer

This characteristic, also due to streamlined design, gives the entire combustion system a wider range of operation without requiring higher initial air pressure, and eliminates ultra-sensitivity of adjustment.

Description — Available in pipe sizes from ¾" to 4", the mixer's efficiency is due to the improved design of internal contours and proportions, with resultant reduction of pressure losses within the unit. Air requirements are accordingly lessened to produce a given mixture pressure, and smaller blowers can be used, or increased burner capacities realized, with the new unit. An air supply of one pound pressure will produce a mixture pressure of 13" water column with natural gas, 11½" with manufactured gas. The gas ratio adjuster is a universal type, suitable for any type of gas. Gas from 550-3200 BTU can be handled with no change of equipment necessary in case of changeover. The device is easily adjusted, and may be sealed at any particular setting if desired. The components are provided with square flange joints which make possible a new flexibility of installation as well as ease of breakdown. Unions in gas and air lines are eliminated, and right or left, up or down installations are all possible with the interchangeable parts. The air sleeve may be removed from the assembly without disturbing any piping, making the insert accessible for changed capacity or cleaning. Either straight or 90° air sleeves are available. Referring to the sketch operation may be described as follows: Air at any available pressure up to 3#, controlled by the Butterfly Valve, passes through the Air Sleeve "A" into the Air Jet "B", where it develops the maximum possible velocity. This stream of air moving at high speed creates a suction around it in the Insert "G". This strong suction draws gas from the zero pressure chamber "E" through the Gas Adjuster "D", chamber "C" and Gas Ports "F" into the space around the air stream in Insert "G". The

44% MORE SOFT WATER

with the new

ELGIN WATER SOFTENER

It's available now!

Think of it—compared to others, the new Elgin Water Softener gives up to 44% more soft water. It also cuts salt consumption, prevents zeolite loss and delivers sparkling clear soft water, so essential for process plants. Note the "Double Check" manifold arrangement, which permits the use of more zeolite to give far greater capacity.

HOW TO STEP UP CAPACITY OF YOUR SOFTENER

The Double Check Manifold can be installed quickly in any make softener. This, with the added zeolite, will give you up to 44% more soft water.

Write for new bulletin 607.

ELGIN SOFTENER CORPORATION

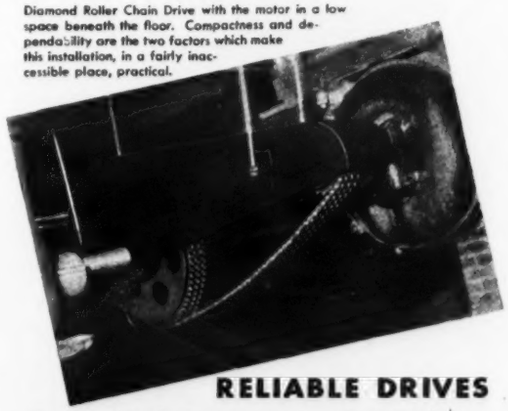
168 No. Grove Avenue, Elgin, Illinois

Softeners • Filters • Feedwater Treatment

Complete Water Conditioning

When inquiring specify FP7039 — see handy form pages 2-3

Diamond Roller Chain Drive with the motor in a low space beneath the floor. Compactness and dependability are the two factors which make this installation, in a fairly inaccessible place, practical.



RELIABLE DRIVES

Save Maintenance—Cut Delays

DIAMOND Roller Chain Drives are selected by the experienced industrial engineers. They will serve you well on all types of power drives—at low or high speeds and for capacities up to 2500 h.p.

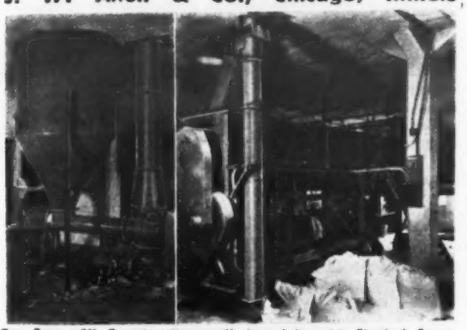
Tell us your drive requirements and we will recommend the proper Diamond Chain to do the job. Ask for Catalog 595 containing helpful drive data. DIAMOND CHAIN COMPANY, Inc., Dept. 410, 402 Kentucky Ave., Indianapolis 7, Ind. Offices and Distributors in All Principal Cities.

DIAMOND **ROLLER CHAINS**

When inquiring specify FP7040 — see handy form pages 2-3

How "HAMMOND" Screw-Lift

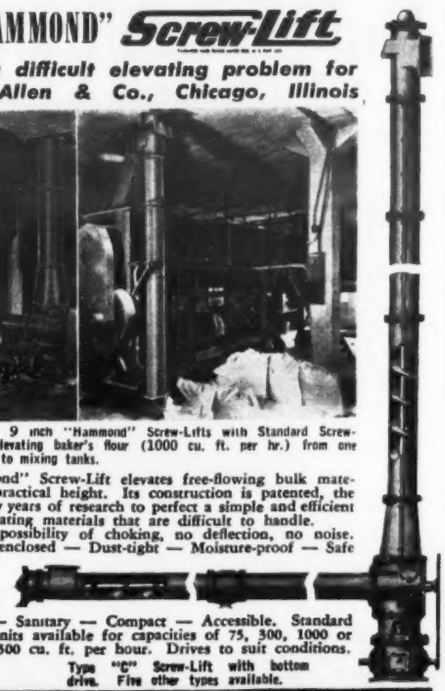
solved a difficult elevating problem for J. W. Allen & Co., Chicago, Illinois



Two Type "C" 9 inch "Hammond" Screw-Lifts with Standard Screw-Veyor feeders elevating baker's flour (1000 cu. ft. per hr.) from one floor to another to mixing tanks.

The "Hammond" Screw-Lift elevates free-flowing bulk materials to any practical height. Its construction is patented, the result of many years of research to perfect a simple and efficient means of elevating materials that are difficult to handle. There is no possibility of choking, no deflection, no noise. Everything is enclosed — Dust-tight — Moisture-proof — Safe — Sanitary — Compact — Accessible. Standard units available for capacities of 75, 300, 1000 or 2500 cu. ft. per hour. Drives to suit conditions. Type "C" Screw-Lift with bottom drive. Five other types available.

Write for Form M-500-2 illustrating available types which we may arrange to suit your conditions, and supply quotations.



Screw Conveyor Corporation

701 HOFFMAN ST. HAMMOND, IND.

ENGINEERS HAMMOND PRODUCTS MANUFACTURERS

When inquiring specify FP7041 — see handy form pages 2-3

FIRST CHECK WITH FIRST FOR GOOD FOOD EQUIPMENT

Agitators	Homogenizers
Attrition Mills	Juice Extractors
Autoclaves	Kettles
Blenders	Mills
Can Fillers	Mixers
Labellers	Percolators
Casers	Pulpers
Cappers	Pumps
Carton Gluers and Sealers	Presses
Choppers	Pressure Cookers
Colloid Mills	Retorts
Cookers	Rinsers
Cutters	Sifters
Dicers	Sterilizers
Dryers	Stills
Evaporators	Tablet Machines
Fillers	Vacuum Pans
Filters	Visco Fillers
Heat Exchangers	Viscolizers, etc.

SELL YOUR SURPLUS EQUIPMENT NOW

FIRST MACHINERY CORP.

157 HUDSON ST., N. Y. 13, N. Y.

When inquiring specify FP7042 — see handy form pages 2-3

mixture flows into the pressure conversion chamber "H" and is delivered from the outlet flange to the manifold piping and burners. Once adjustment "D" is set the Flo-mixer is controlled by using only the Butterfly Valve. Complete descriptive material which includes selection data sheets for various capacity, air and mixture pressures, is included in bulletin 5C-1, available on request.

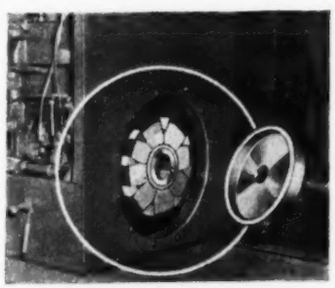
BRYANT HEATER CO., Dept. FP, 17825 St. Clair Ave., Cleveland, Ohio.

When inquiring specify FP7043 — see handy form pages 2-3

★

Auto-Centri Clutch Prevents Breakdowns Caused by Shock Loads

Device permits use of squirrel cage motors and across the line starting equipment in place of high starting torque drives



Auto-centri clutch

Uses — The automatic clutch is especially designed for drive applications on machines where "starting shock" or overloading exists.

Features — It permits the use of squirrel cage induction motors and utilizes the full power of the motor at starting. Dispenses with expensive starters and enables across-the-line starting. Saves power by holding the peak to the normal horsepower required to drive the load. Supplies full protection against damage from overloading.

Description — Clutch consists of three main parts: drive body, driven body, and driving mechanism. Drive body is keyed to the shaft of the power unit, and the driven body is keyed to the shaft of the driven machine. Mechanism is composed of a number of metal blocks fitted so as to form an expansion ring. The drive to the load is always entirely disconnected at starting. As the drive shaft gains speed the driving member expands outward, and the increasing centrifugal force is applied smoothly and evenly on the friction wall of the driven body. The horse power of the clutch increases directly as the cube of the speed, and the driven load is brought into motion with a smooth, even acceleration, free of starting shock and damaging strains. In operation the clutch brings the power unit and driven load into step without shock or strain. On drives using internal combustion engines, the clutch will automatically disengage the load when the motor is throttled to idling speed. The unit operates as efficiently in reverse as forward or can be supplied to drive in one direction only. Where equipment is arranged for dual drive such as a motor and turbine driven fan, either clutch disconnects automatically when the driving unit stops. The clutch is available in sizes from fractional horsepower to 5000 h.p. for any type of drive. Complete details are contained in Bulletin No. 45, which may be secured on request.

HARDINGE CO., INC., Dept. FP, York, Penna.

When inquiring specify FP7044 — see handy form pages 2-3

JESSOP STAINLESS-CLAD STEEL

Again in the NEWS

Steel Tanks Made Here for Grape Juice

Jessop Works on 700-Ton Order

Six and a half million gallons of grape juice soon will be stored in giant new tanks constructed of stainless-clad steel made in the Pittsburgh district.

The Jessop Steel Co. of Washington, Pa., is producing 700 tons of the stainless-clad for use in building 44 storage tanks for the Welch Grape Juice Co.

Ninety per cent of the order already has been manufactured at the Washington plant. The job will provide a total of 21,600 man hours, or 2700 days of employment.

Hold 147,000 Gallons

Each of the tanks will have a capacity of 147,000 gallons of grape juice. Four are being installed at Brocton, N. Y., nine at Westfield, N. Y., 10 at North East, Pa., 15 at Lawton, Mich., and six at Springdale, Ark.

These Jessop stainless-clad tanks are replacing various five-gallon carboys, 50-gallon barrels, wooden vats and concrete tanks that have been used since the grape juice industry was founded many years ago.

The tanks are fabricated by the Chicago Bridge & Iron Co. of Greenville, Pa.

Select Stainless-clad

Welch engineers selected Jessop stainless-clad because of its sanitation advantages, protection from contamination, and economy by using stainless steel on the inside and mild steel on the outside. The tanks are housed in enclosed structures to protect them from corrosive action.

Each tank is 31½ feet in diameter and 25½ feet high.

—The Pittsburgh Press, July 14, 1946.

We will gladly demonstrate how JESSOP Stainless-Clad Steel can effect economies and improve product quality in your plant. Write today for complete information.

When inquiring specify FP7045 — see handy form pages 2-3

AMONG other things, the VOTATOR is a great help in preserving intact the superb but fugitive qualities of the orange.

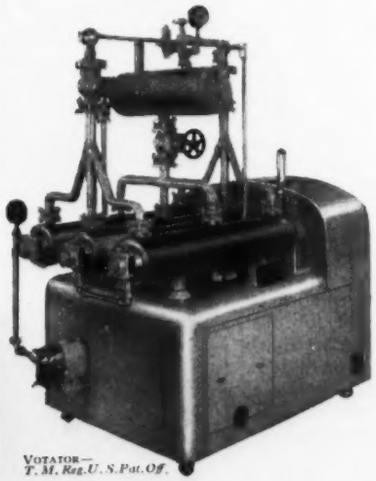
Operating on a continuous basis, a VOTATOR low temperature crystallization unit slush freezes orange concentrate in seconds, *as it flows through the unit.* Fermentation is prevented. Flavor and nutrients are promptly caught and held. And orange juice made from concentrate can now equal the goodness of that made from fresh oranges.

Closed, controlled, compact VOTATOR operation assures uniform results, cuts costs. Refrigerant is used more efficiently than ever. Floor space is saved. Holding time for a solid freeze is cut in half.

In addition to fruit and vegetable products, the VOTATOR is a quality and cost saver for margarine, shortening, lard, plastic cream, starch paste—virtually any food processed in a viscous condition requiring heat transfer. If you process anything in this category write to The Girdler Corporation, Votator Division, Louisville 1, Ky.

District Offices: 150 Broadway, New York City 7; 2612 Russ Building, San Francisco 4; 617 Johnston Building, Charlotte 2, North Carolina.

THE Votator — A GIRDLER PRODUCT



VOTATOR—*T. M. Reg. U. S. Pat. Off.*

When inquiring specify FP7046 — see handy form pages 2-3

"Sealol" Seals Leaking Rotating Shafts

May be installed on new or existing equipment — easily installed

Uses — Device is designed for use on rotating shafts to seal off leaks and to exclude foreign material.

Features — Unit seals mechanically — no packing to replace — no nuts to adjust — does not score shaft.

Description — Seal is packaged as a complete unit — no skill or special tools are required for installation. It slides easily into position on the shaft and is locked in place with two set screws. The only relative movement is at the lapped faces. Shaft run-out does not affect performance of the seal. Entire seal is of non-corrosive construction. Sealing material employed — resists oil, heat, and corrosion. For shaft sizes from ½" to 1". May be used on original equipment or replacement. Bulletin is available giving more details and simple directions to install.

SEALOL CORP., Dept. FP, Providence 5, R. I.

When inquiring specify FP7047 — see handy form pages 2-3

★

New Fire Hose is Water and Mildew Resistant

Is built to withstand the abrasive action of gravel, cinders and rough surfaces

Uses — For fire fighting equipment.

Features — This all weather double jacketed hose is built to withstand the abrasive action of gravel, cinders and rough surfaces over which it may be dragged. It will withstand extreme temperatures, from freezing cold to blistering heat. Water repellency and mildew resistance are features of importance.

Description — Both hose jackets get a double treatment of the "all-weather" process to make doubly sure that all the fabric is thoroughly impregnated. A mildew treatment is applied at the same time. The edges of the hose are strongly reinforced with special high tension cable cord yarns having the greatest possible wear at points where it is most needed. Complete information may be obtained by writing.

AMERICAN - LaFRANCE - FOAMITE CORPORATION, Dept. FP, Elmira, N. Y.

When inquiring specify FP7048 — see handy form pages 2-3

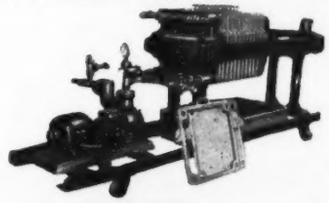
Improved Filtration

Engineered to give You

To clarify, bleach, decolorize, deodorize, winterize, extract, thicken or recover solids — depend on a Shriver Filter — the choice of outstanding American food processing plants. Built of any metal, rubber, wood or plastic; operates at any pressure or temperature; uses any filter media or filter aids; any capacity from 1 to 150 g.p.m. Write for catalog to T. Shriver & Company, Inc., 830 Hamilton St., Harrison, N. J.

Better Product
CLARITY · PURITY
SALES APPEAL

Regardless of Nature of Material Operating Pressure or Temperature



An all stainless steel filtration unit including stainless steel piping and motor operated pump on portable stand.

FOR BETTER QUALITY
Shriver FILTERS
RECOVER SOLIDS · CLARIFY · DECOLORIZE

When inquiring specify FP7049 — see handy form pages 2-3

Stop Losses from Insects

...Use the "ENTOLETER" Continuous Control System for Plant and Product Cleanliness

NOW, more than ever, your plant and products need the "ENTOLETER" system of continuous insect control. It helps you to avoid waste of scarce food materials . . . to protect product ingredients . . . to insure the high standards of your products.

For full information on "ENTOLETER" Continuous Insect Control System, write to ENTOLETER DIVISION, The Safety Car Heating and Lighting Co., Inc., 1185 Dixwell Avenue, New Haven 4, Connecticut.

ENTOLETER
INFESTATION DESTROYER
CONTINUOUS INSECT CONTROL SYSTEM

When inquiring specify FP7050 — see handy form pages 2-3

High Pressure Grease Gun Holds 30 lbs. of Lubricant

Has automatic venting device, which relieves pressure in hose assembly when not in use permitting lubricant to drain back to container

Features — This high pressure grease gun has a positive automatic venting device in the pump tube assembly which operates instantly when the pump handle is raised momentarily to topmost position. This relieves pressure in the hose assembly permitting lubricant to drain back into the container, saving lubricant and eliminating dripping when coupler is disengaged from the grease fitting. Venting device is wear proof and has no moving parts or springs.

Description — Unit is all steel construction and holds 30 lbs. of lubricant. Is easy to operate — up and down action — no gears or crank. Quickly refilled — full open top provides maximum filler opening. Top easily removed by merely loosening two thumb-nut fasteners. Container design permits use of follower plate when pumping heavy lubricants. Container and lid are made of heavy-gauge steel. Container has reinforced bottom. Footstep is welded across bottom of container, providing added protection and permitting ease of operation in uneven surfaces. Convenient to carry — sturdy handle for ease in lifting and carrying. The handle is equipped with holder for coupler; keeps coupler and hose assembly off the ground and out of way when not in use. Complete details on this device will be sent on request.

THE LINCOLN ENGINEERING CO., Dept. FP, 5701 Natural Bridge Ave., St. Louis 20, Mo.

When inquiring specify FP7051 — see handy form pages 2-3

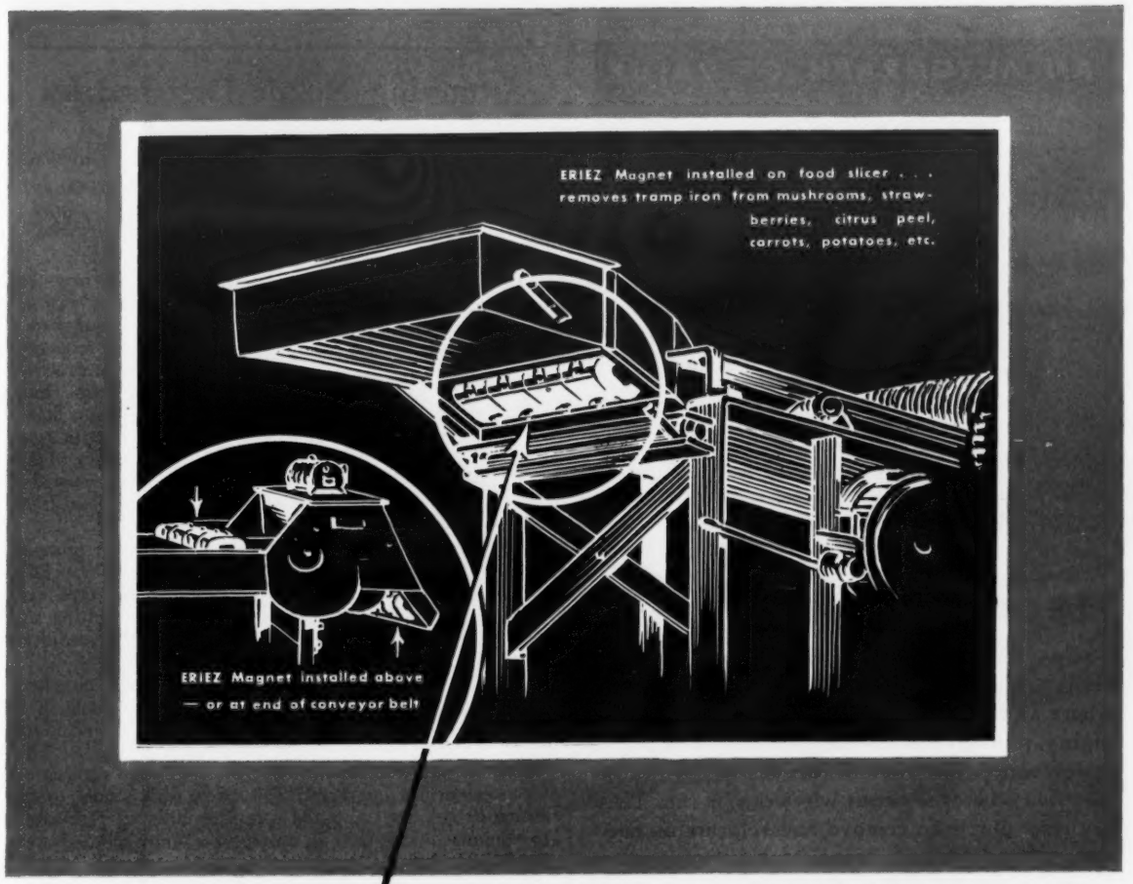
★

Mechanical Foam Stops Large Oil Tank Fire in 4 Minutes, 2½ Seconds

18 pages in an interesting booklet are devoted to the story of fire fighting mechanical foams. Fire is generally extinguished in one of two ways: by cooling the burning material to a point below its ignition temperature, or by smothering it. In the latter method, the burning material is separated from the air which supplies the oxygen essential to combustion. Water is an effective cooling medium for ordinary materials, such as paper, cloth and wood but in the case of oil fires it is too dense and sinks through the oil. Foams meet this objection in that they readily float on the surface of almost any burning material and provide a flexible blanket of protection between the burning material and the oxygen of the air. There are two kinds of foams, mechanical and chemical. The chemical foams as their name implies depend on the reaction between an acid and an alkali to generate minute gas bubbles and so form a blanket. In the mechanical foams air is bubbled through water with a foaming compound added such as a protein. There are two types of mechanical foams offered, a low expansion one and a high expansion one. The low expansion foam lasts longer but is harder to remove from the applied surface. The booklet explains applications and the sizes and uses of the piping equipment used in connection with the foams. It is available on request.

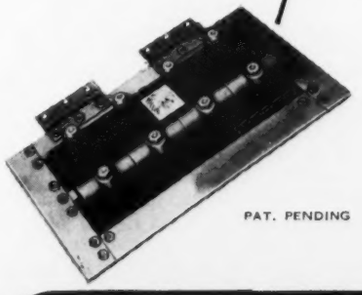
PYRENE MANUFACTURING COMPANY, Dept. FP, Newark 8, N. J.

When inquiring specify FP7052 — see handy form pages 2-3


ERIEZ Magnet installed on food slicer . . . removes tramp iron from mushrooms, strawberries, citrus peel, carrots, potatoes, etc.
ERIEZ Magnet installed above — or at end of conveyor belt

ERIEZ PERMANENT MAGNETS + STAINLESS STEEL = FOOD PROTECTION & PURITY

INSTALLATION ON STRING BEAN SLITTER



PAT. PENDING

ERIEZ Non-Electric Permanent Magnets (protecting foods in process from metal contamination) . . . stainless steel (for *purity* and *sanitation*) . . . an unbeatable combination! Hundreds of ERIEZ applications are working in leading food plants . . . two are shown above. Although ERIEZ Magnets can be placed on the *outside* of a stainless steel chute or food line without cutting into the steel itself, many food processors prefer to install the ERIEZ stainless steel-faced magnet into the line, so that its powerful field is in direct contact with either dry or liquid food materials. Send coupon for details on solving *your* ferrous metal removal problems most *economically*.

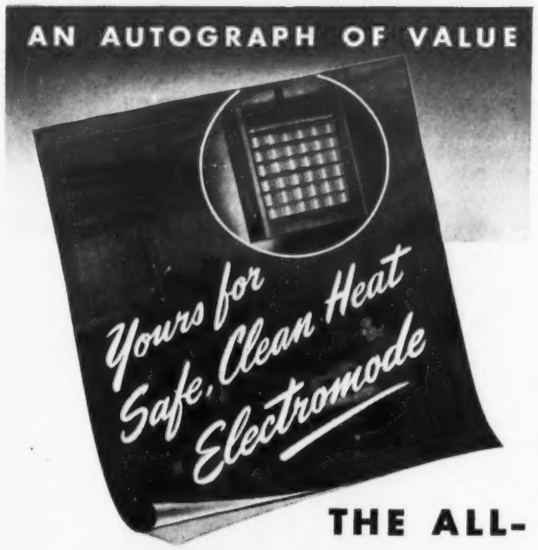
CLIP AND MAIL TODAY
Dear Sir: We are interested in removing tramp iron or ferrous particles from the following materials: ____
We would like to know more about installation of ERIEZ on: FP10
☐ Gravity Conveyors ☐ Mechanical Conveyors ☐ Pneumatic Conveyors
☐ Liquid Pipelines Magnetic Trap ☐ Equipment or Processing Machines
Name ____
Address ____ City ____ State ____

● *When It's Magnetic Protection . . . See Eriez First*

Eriez EAR'EEZ

ERIEZ MANUFACTURING CO.
1101 EAST 12th ST. ERIE, PENNA.

When inquiring specify FP7053 . . . see information request blank, pgs. 2-3



THE ALL-ELECTRIC UNIT HEATER

The name Electromode on your plant Unit Heaters is assurance of economical heating available where and when it is needed without expensive piping, piping connections, insulation, and costly maintenance. Electromodes are easily and quickly installed wherever circuit wires can be run. They are also simple to remove and relocate as need determines. Factory areas, stockrooms, warehouses, isolated buildings, departments run overtime when central heating is off, are only a few places where Electromode all-electric Unit Heaters do the job better, giving greater value per dollar invested.

All hazards of fire, shock or explosion are eliminated with an Electromode installation. The sheathed heating element embedded in a one-piece finned aluminum casting is completely isolated from any external contacts; there are no exposed glowing resistors, no incandescent hot wires. All electrical energy is converted 100% into heat and no current is used when not "on". Control may be manual or automatic. Your Electrical Wholesaler can help you in selection of proper capacities. ELECTROMODE CORPORATION, Rochester 3, N.Y.

Latest Bulletin 45-U and Heating Survey Form sent promptly upon request.

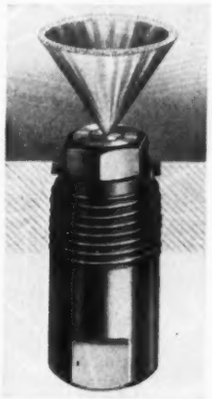
ELECTROMODE
Electric Unit Heaters

When inquiring specify FP7054 — see handy form pages 2-3

Production

Atomizing Nozzle Designed for Wall Mounting

Operates at pressures ranging from 10 to 1000 lbs. per sq. in. Produces hollow cone type spray with uniform distribution



Wall mounted atomizing nozzle

Uses — This nozzle may be mounted directly into the wall of processing or machine equipment. Atomizing nozzles wall mounted are ideal for such typical processing as spraying perfume into powder and shortening into flour. Another important application may be found in machinery where an atomized lubricant must be sprayed on high speed gear drive assemblies.

Features — In chemical processing involving the use of vats and mixers, nozzles of this type can simplify the work of setting up equipment for operation considerably.

Description — Wall mounted atomizing nozzles are made in a variety of materials including brass and stainless steel. The nozzle consists of three parts (1) body (2) cap with stainless steel orifice insert and (3) body with monel metal screen or strainer. Cap and core assemblies are renewable to minimize nozzle costs in operation. Water, oil, solvents and liquids with similar viscosities may be sprayed. Available in sixteen sizes, these wall mounted atomizing nozzles provide efficient operation at pressures ranging from 10 to 1000 lbs. per square inch. Atomization provided by hydraulic pressure will be found to be the finest possible for any given pressure. Spray is of hollow cone type, with uniform distribution of atomized liquid. Complete information on this nozzle is available by writing for information data sheet No. 2830.

SPRAYING SYSTEMS CO., Dept. FP, 4037 W. Lake St., Chicago 24, Ill.

When inquiring specify FP7055 — see handy form pages 2-3

★

Dust Collectors Save Money And Reduce Accidents

The importance of dust collection is emphasized forceably in a booklet in which it is conservatively figured that during the last 20 years 28 million dollars were lost in explosions and fires occurring in dusty atmospheres. Dust collection is also important in relation to by-product reclamation. A third aspect is that of employee health. Certain airs contain small particles which when breathed into the lungs are quite damaging to delicate tissue structure. Four styles of machines are covered in the booklet and an announcement states that the company is in a position to render design changes which might prove necessary to meet certain demands. Literature is available on request.

RICHMOND MANUFACTURING COMPANY, Dept. FP, Lockport, N. Y.

When inquiring specify FP7056 — see handy form pages 2-3

ALL ELECTRIC FLOATLESS LIQUID LEVEL CONTROLS

The original — pioneered by B/W in 1933. No floats! No vacuum tubes! No moving parts in liquid. Literature describes relays and switches, automatic starter and relay combinations, multiple pump controls, special controls and panels and many application diagrams.

Controls not affected by pressures temperatures, acids or caustics. Remote control if desired. Ice free electrodes where necessary.

WRITE FOR CATALOG

B/W CONTROLLER CORPORATION

2212 East Maple Road, Birmingham, Mich.

FIRST IN THE FLOATLESS CONTROL FIELD

When inquiring specify FP7057 — see handy form pages 2-3

BARBER-COLMAN MOTOR-OPERATED VALVES

TYPE FYBA
SEMI-BALANCED VALVE

Barber-Colman electric *motor-operated* Valves offer a number of advantages for all types of process and other control systems associated with industrial equipment. They will provide reliable shut-off for gases and liquids because of positive power-driven seating, and can also provide accurate motor-driven positioning for proportioning service. Current is consumed only when the valve is changing position. Motors are available for either low-voltage or high-voltage lines. These valves are made in a wide range of sizes and types, for accurate, dependable service.

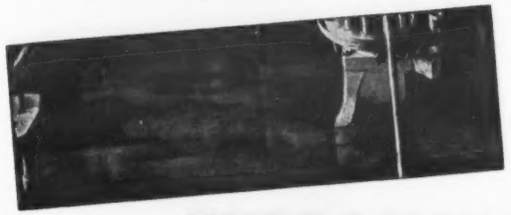
Write for Bulletin
"CONTROLS for INDUSTRY"

MAXIMUM SERVICE Controls BARBER-COLMAN COMPANY MINIMUM MAINTENANCE

BARBER-COLMAN COMPANY
1203 ROCK ST. • ROCKFORD, ILL.

When inquiring specify FP7058 — see handy form pages 2-3

PATCH WET FLOORS WITH



HYDROMENT

QUICK—
CONVENIENT - WATERPROOF - PERMANENT

HYDROMENT is quick. Requires no shut-down time. Patches worn or broken floors in a few minutes. No matter how wet the floor it sets over night strong enough for ordinary traffic. Stands heavy traffic in 24 to 48 hours. HYDROMENT is convenient. Mixes with water only. Any workman can apply it. Bonds perfectly to cement, brick or tile.
HYDROMENT is waterproof. Ideal for pasteurizing, cooling, freezing and bottling rooms and for outside ramps, loading platforms, etc.
HYDROMENT is permanent. Will not shrink. Outwears original surface.
Available for Immediate Delivery.

THE UPCO COMPANY
4796 LEXINGTON AVENUE • CLEVELAND, OHIO

Send me literature and a sample of HYDROMENT —

Name .....

Company .....

Address .....

When inquiring specify FP7059 — see handy form pages 2-3

You get easier work *added* to hand safety

in new positive gripping

STANZOILS

— If all neoprene industrial gloves were alike in durability, the unique Pioneer non-slip finish on Stanzoils would alone justify your choice of them. For this positive grip gives workers assurance and speed. But Stanzoils, made of milled DuPont neoprene, not latex, have shown extra long life in corrosive liquids in hundreds of plants. All needed styles, weights, sizes, black or white. Avoid costly injury claims, save expense, increase output — insist on Stanzoils from your supplier. Catalog on request.

Synthetic Rubber Division

STANZOIL PIONEER

THE PIONEER RUBBER COMPANY
263 Tiffin Rd., Willard, Ohio, U.S.A.
Los Angeles

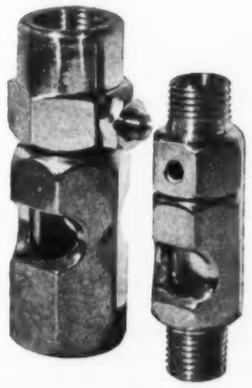
OVER 25 YEARS OF QUALITY GLOVE MAKING

When inquiring specify FP7060 — see handy form pages 2-3

Production

Sight Feed Valve has Novel Regulating Arrangement

Extremely slow drop feed possible with light oil with tamper proof setting and lock screw



Valve has unbreakable sight

Uses — Sight feed valves are used wherever the rate of oil flow must be visually checked and regulated permitting occasional adjustment or fixed settings. They are usually adapted to circulating oil systems or multiple oiler arrangements for feeding a number of bearings from a central reservoir.

Features — Oil flow through the port can be adjusted within a wide range by a combination of a set screw and a hollow lock screw. It can be wide open or entirely closed. The sight itself has an unbreakable glass or plastic construction.

Description — Construction is sturdy, consisting of two main parts, a housing of hexagonal stock with large viewing windows and a regulating unit including the drip nozzle. The latter part contains the regulating screw within its body. For those applications requiring a very frequent adjustment a more easily accessible regulating screw can be provided at no extra cost. Valves are available with hexagonal bodies of ¾, 15/16, 1⅛, and 1 5/16 inches and with male as well as female pipe threads of ⅛, ¼, ⅜, and ½ inches. Oil flows past an adjustable port through a valve nozzle into the sight chamber where the amount of flow can be observed. Further information is furnished on request.

OIL-RITE CORPORATION, Dept. FP, 3461 S. 13th St., Milwaukee 7, Wis.

When inquiring specify FP7061 — see handy form pages 2-3

Available for Immediate Delivery

Cuts Handling Costs... Speeds Deliveries!

LAMSON UTILITY CONVEYOR
it's Portable...Adjustable...Reversible

Helps you load and unload cars and trucks.

Spans dock from warehouse to freight car.

Acts as Booster between two portable, roller gravity conveyors.

MAIL the coupon today for folder showing the 101 uses of this handy conveyor. It shows how you can save time and labor in loading and unloading freight cars, trucks and planes . . . in stacking and unstacking cartons in your warehouse . . . how you can increase the travel of your gravity conveyors and feed an overhead conveyor at any point along the line.

Lamson Corporation—a pioneer manufacturer of materials handling conveyors—offers a limited quantity of this guaranteed utility conveyor for immediate delivery.

SEND COUPON FOR FOLDER

Lamson Corporation
1150 Lamson St.
Syracuse 1, N. Y.

Send me, without obligation, your folder and prices on the Lamson Utility Conveyor.

Name .....

Company .....

Address ..... State .....

When inquiring specify FP7062 — see handy form pages 2-3

how will you have your heat?

Wrapped around a pipe line? Immersed in a vat? Clamped to a warming table? For these and 1001 other food plant applications, G-E electric heaters are both easy to install and easy to maintain. They supply heat for food processing almost instantly and eliminate the hazard of overheating, thereby making plant working conditions safer and more comfortable. The chart below shows the more common types of G-E heaters for food plants. Bulletin GED-650B describes the complete line. Write for your copy today. *Apparatus Dept., General Electric Company, Schenectady 5, N. Y.*

G-E ELECTRIC HEATERS.....

The answer to a food plant's "small heat" problems

TYPE	APPLICATIONS	SHEATH MATERIALS	DIMENSIONS	STANDARD RATINGS
CALROD HEATER	Heating ovens, hot plates, air, pipes.	Steel (to 750 F); nickel-silver (to 1000 F); chrome-steel (to 1200 F); nickel-chromium alloy (to 1500 F).	Diameters from 0.28 in. to 0.6 in. Lengths to 135 in. in small diameters; to 200 in. in large diameters.	Depending upon size, from 250 w to 7500 w. Depending upon diameter, heaters are 115 to 460 v.
IMMERSION HEATER	Heating water, oil, molasses, or paraffin, in dip tanks, kettles, and vats.	Copper (for water); steel (for oil baths); lead (for acid solutions).	Sizes and shapes for nearly any tank.	Depending upon size, from 600 w to 10,000 w. Depending upon diameter, heaters are 115 to 460 v.
CARTRIDGE HEATER	To create heat "spots" in package-sealing machines, and labeling machines.	Brass (to 750 F); nickel-silver (to 1000 F); chrome-steel (to 1200 F).	Diameters of 0.375 in. to 1.293 in. Lengths of 1.5 in. to 8.5 in.	Depending upon size, from 30 w to 1200 w. Either 115 v or 230 v.
STRIP HEATER	Heating warming tables, drying cabinets, dehydrating ovens.	Steel (to 750 F); porcelain-enameled steel (to 1200 F).	Over-all lengths from 7 in. to 35.5 in. Width, 1.5 in.	Depending upon size, from 150 w to 1500 w. Either 115 v or 230 v.
FIN HEATER	To heat air in dehydrating systems, air-conditioning equipment.	Steel fin on steel sheath with heat-resisting finish (to 1000 F).	Standard lengths from 20 in. to 104 in. Diameter 1.25 in.	Depending upon size, from 2000 w to 10,000 w. Heaters are for 230 v or 460 v.
CABLE HEATER	Warming valves and pipe lines that carry viscous material.	Lead (to 165 F). (For higher temperatures use Calrod tubular heaters.)	Cable diameter 0.24 in. 60 ft on 115 v, 400 w. 120 ft on 230 v, 800 w. 240 ft on 460 v, 1600 w.	

653-16C-110

GENERAL ELECTRIC

—When inquiring specify FP7063 . . . see information request blank, pgs. 2-3—

Production

Notched Leather V Belting is Light and Flexible

Absorbs jerks and jars and pulls together when unevenly matched in length

Notches in under surface relieve crowding and bulging of the sides

Uses — For application on both heavy and light machinery and appliances.

Features — Leather belts are light in weight, flexible and quiet in service. They do not fray, ravel or wear the sheaves, and under heat and oil conditions last well. Leather belts are slightly elastic and this gives them many advantages. They operate at lower tensions and are easier on bearings. Jerks and jars are absorbed, protecting the motor and the machine. They maintain an even tension and contact with the pulleys throughout normal variations in the load. When several belts are used on the same pulley an individual belt may be replaced without affecting the others in the gang. The belts do not have to be matched in length as the elasticity of the leather will distribute the load evenly over the entire gang and they will all pull together.

Description — This belting is made in two series to fit every V-belt drive carrying the standard 40° angle sheaves. The lettered sizes A B C D etc. cover the range of all heavy industrial machinery in mills, shops and factories. Numbered sizes No. 0, 1 and 2 are for light machinery. Couplers are sold separately, each in individual envelopes containing illustrated instructions for applying. This leather V belting is packed in cartons of 100 ft. each. Required length is cut and readily made endless with the use of the metal coupler. Couplers are made with a chain link between two U shaped clips that bolt onto the ends of the belt. They are made of light weight heat-treated metal. Detailed literature may be secured on request.

S. R. SIKES COMPANY, Dept. FP, 1028 S. Third St., Minneapolis 15, Minn.

When inquiring specify FP7064 — see handy form pages 2-3

★

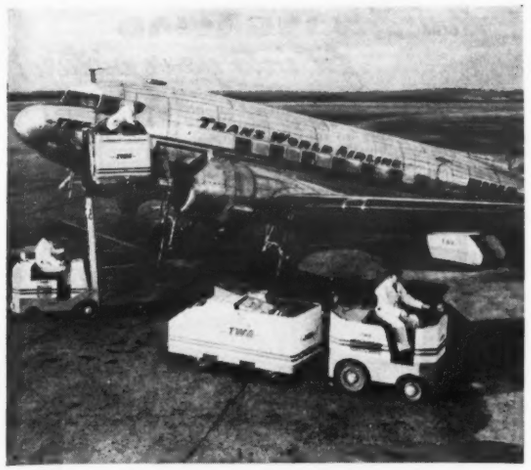
Centrifugal Pumps

Bulletin C-945 covers horizontal split case, multi-stage, high pressure centrifugal pumps. They may be used with motor, steam turbine or engine drives. Uses include high pressure boiler feeding, high pressure water supply in skyscrapers, hydraulic elevator service, etc. Liquids may be handled at from 75 to 500 lbs. per square inch in capacities of 75 to 400 GPM.

Applications are given in some detail with pictures showing general uses of the pumps. Details of construction showing features of the casing, impellers, bronze diaphragms, balancing device, shaft, bearings are included. A detailed half section points out the design features, and a group of selection tables concludes the bulletin. Available on request.

ECONOMY PUMPS INC., Dept. FP, Hamilton, Ohio.

When inquiring specify FP7065 — see handy form pages 2-3

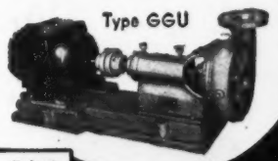


Time Spent on non-productive operations can only add to the final cost of production. To learn how a modern materials handling system can save time, money and manpower, minimizing the ultimate cost of your product or service, take it up with Towmotor.

TAKE IT UP WITH
TOWMOTOR
THE ONE-MAN-GANG

Towmotor Corp., Div. 5, 1226 East 152nd St., Cleveland 10, O.

When inquiring specify FP7066 — see handy form pages 2-3



Another Distinguished PUMP "by Aurora"

SIDE SUCTION CENTRIFUGAL

Type GGU

Capacities to 1400 G.P.M.
Heads to 190 Ft.

Wherever liquids play an important or incidental part in industrial processing, this Aurora Type GGU serves perfectly and with lasting efficiency. Because the casing is separate from the bearing bracket, the need for special metals to handle corrosives is minimized. Discharge may be placed in any of eight positions. We commend these pumps for high satisfaction and economy.

APCO TURBINE-TYPE PUMPS

For high pressure, small capacity requirements (up to 150 g.p.m.). Wide operating range characteristics. No metal to metal contact. Handles non-lubricating liquids without wear. Only one moving part—the Impeller.

AURORA CENTRIFUGALS
for Every Pumping Job
HORIZONTAL SPLIT CASE
Single & Two Stage
SIDE SUCTION
VERTICAL NON CLOG SUMP
MIXED FLOW
SPECIAL DESIGN
Write for CONDENSED CATALOG "M"
or
Consult SWEETS

DISTRIBUTORS IN PRINCIPAL CITIES

AURORA Always PUMPS

AURORA PUMP COMPANY

76 Loucks Street, AURORA, ILLINOIS

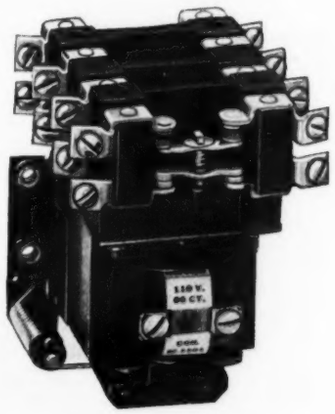
When inquiring specify FP7067 — see handy form pages 2-3

Production

Solenoid Relay May be Operated Normally Open or Normally Closed

Simple shift of connections is only requisite for changing mode of operation

Uses — For normally open or normally closed relay operations.
Features — The unusual flexibility in that the relays may be operated either



Universal solenoid relay

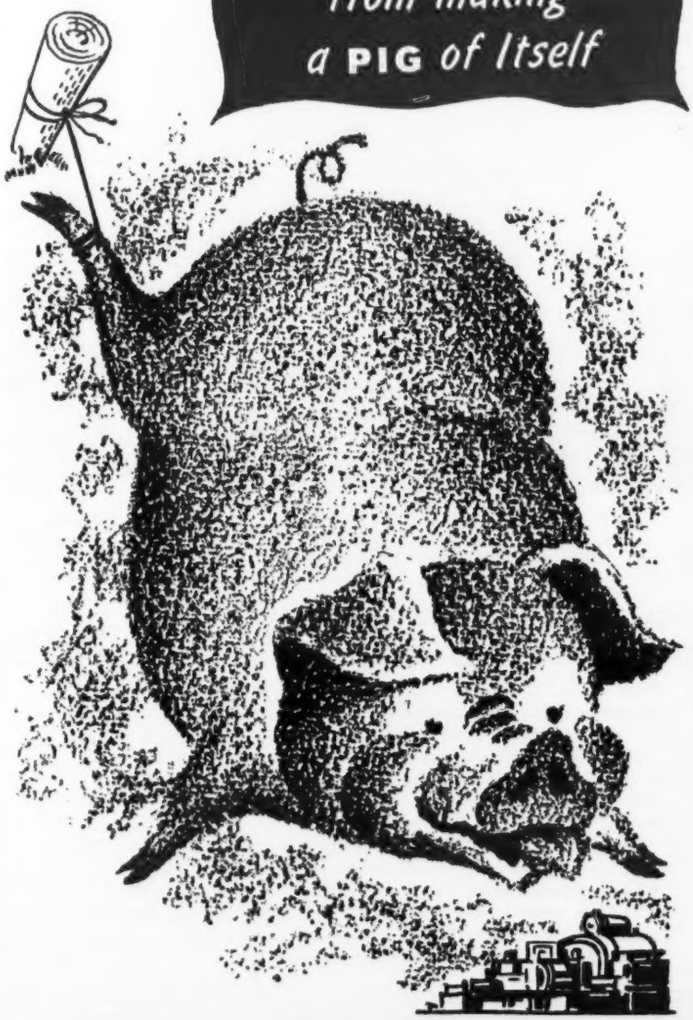
normally open or normally closed by means of a simple shift in the connections is the outstanding feature of these units. These solenoid relays are equipped with double break silver alloy contacts which do not require cleaning, filing or dressing.

Description — Relays can be obtained either in the open style or mounted in an enclosure. Units are available in 2, 4, 6, and 8-pole constructions. All contacts on the 2-pole and 4-pole relays are of the universal type. The 6 and 8-pole relays have only four sets of universal contacts. The remaining contacts are of the conventional type and cannot be changed in the field. These relays have a maximum current rating of ten amperes, non-inductive, and can be obtained for operation on 25, 30, 40, 50, and 60 cycles with voltages of 6, 12, 24, 32, 64, 110, 220, 440, 550, and 600 volts. The universal type of relay should only be used for switching circuits of like polarity and cannot be used as reversing switches. Complete details may be had on request.

ALLEN-BRADLEY COMPANY, Dept. FP, 1311 S. First St., Milwaukee 4, Wis.

When inquiring specify FP7068 — see handy form pages 2-3

Keep DUST HOG from making a PIG of Itself



Unrestrained, DUST HOG will eat up your chances of making your plant an efficient working place. Dust—out of control—monopolizes light, spoils workmanship, speeds wear on moving parts, and increases maintenance costs. What is often regarded as merely a nuisance, is usually a profit thief.

How to put DUST HOG in its place is the subject of Pangborn's free booklet, "Control of Industrial Dust". As a first step toward ridding your plant of expensive "dust pockets", request this booklet. Write Pangborn Corporation, 286 Pangborn Boulevard, Hagerstown, Maryland—*world's largest manufacturer of dust control and blast cleaning equipment.*

Pangborn

PANGBORN CORPORATION, HAGERSTOWN, MARYLAND

When inquiring specify FP7069 — see handy form pages 2-3

THE *Original* WHEEL-EZY $10.25

MODEL CK-45-NH NICRO STEEL WHEELS . .

WITH RUBBER WHEELS (MODEL CK-45-AGH) . . . $13.25

Here is the lightweight hand truck which gives you top quality at lowest price. Tremendously strong, *WHEEL-EZY* will carry as many as five loaded cases up and down steps, over ramps and thresholds with balanced ease. Simply hung on the truck, it can be lifted down quickly by the driver at each delivery stop . . . saves his energy and allows him to accomplish more daily.

Rapids-Standard *WHEEL-EZY* trucks have single or double handles . . . open or solid "shovel-type" nose . . . with the wheel of your choice. Overall height 45½", overall width 20".

Break away from old-fashioned "case-at-a-time" handling methods! Put a *WHEEL-EZY* on every truck in your fleet and watch how quickly they pay for themselves.

OTHER WHEEL-EZY MODELS

Model CK-145-GP, (left) a single handle, solid or open nose type, equipped with General Pneumatic Wheels $19.95. Same type but double handle (Model CK-45-D-GP) $20.95 (right).

ORDER NOW

THE RAPIDS-STANDARD COMPANY, INC.

360 Peoples Nat. Bank Bldg. Grand Rapids 2, Michigan

When solid nose is desired put figure "1" in model number, as "CK-145-NH".

Quantity	Handle: Single	Handle: Double
CK-45-NH	☐ $10.25	☐ $11.25
CK-45-AGH	☐ 13.25	☐ 14.25
CK-45-GP	☐ 19.95	☐ 20.95

All prices F.O.B. Grand Rapids, Michigan

OFFICES IN ALL PRINCIPAL CITIES

COMPANY .....

NAME .....

ADDRESS .....

When inquiring specify FP7070 — see handy form pages 2-3

Production

Alloy Pail Resists Corrision and Preserves Product Purity

Made of Inconel, it may be used in over 30 different industries

Uses — Designed for use in industries where highly corrosive liquids are encountered and where metallic contamination must be avoided.

Features — It has a closed rolled rim so that pails can be nested to facilitate storage. It is highly resistant to a wide range of corrosive materials. Tough and strong, the pail can withstand wear and

Resists abuse and high temperatures

abuse as well as high temperatures. Material from which it is made has been used for such widely diversified purposes as jet engine parts, furnace parts, in penicillin production, and in the manufacture of fatty acids at 3000 pounds pressure.

Description —. The pail is of solid Inconel with Monel chime, ears and handle and is of all welded construction. Inconel contains approximately 80 per cent nickel and 14 per cent chromium. Details may obtained by writing.

INTERNATIONAL NICKEL COMPANY, INC., Dept. FP, 67 Wall St., New York 5, N. Y.

When inquiring specify FP7071 — see handy form pages 2-3

★

Perforated Screen Handbook

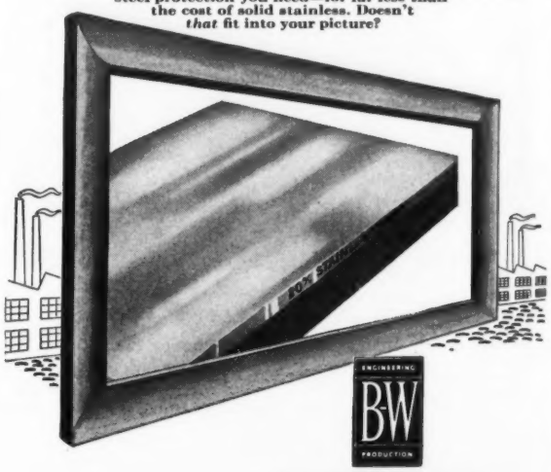
A new edition of a familiar handbook on perforated metal screens features data tables, specifications and illustrations. It provides standard practice information on three types of standard perforated plate screens, -flat, step, conical and cylindrical. Copies of Handbook (Bulletin 70) on request.

MORROW MFG. CO., Dept. FP, Pittsburg, Kansas.

When inquiring specify FP7072 — see handy form pages 2-3

How does INGACLAD *fit into your picture?*

Look around your plant . . . at your products . . . at your equipment. Wherever stainless steel protection is needed only on the exposed or contact side, *there* is where IngAclad Stainless-Clad Steel fits into your picture. Because IngAclad is 20% solid stainless steel, permanently bonded to a backing of mild steel, it provides all the stainless steel protection you need—for far less than the cost of solid stainless. Doesn't *that* fit into your picture?



INGACLAD
STAINLESS-CLAD STEEL

INGERSOLL *Steel Division* • BORG-WARNER CORPORATION • 310 S. Michigan Ave., CHICAGO 4, ILLINOIS
PLANTS: *Chicago, Illinois* • *New Castle, Indiana* • *Kalamazoo, Michigan*

When inquiring specify FP7073 — see handy form pages 2-3

MOISTURE ENGINEERING

with the KATHABAR System automatically and accurately provides

THE PROPER HUMIDITY

—independently of temperature—

for processing operations in the manufacturing of:

DRUGS, PHARMACEUTICALS, CHEMICALS, FOODS, OR ANY PRODUCT OR MATERIAL AFFECTED BY EXCESS HUMIDITY CONDITIONS . . . *Write for information.*

SURFACE COMBUSTION • TOLEDO 1, OHIO

SC Kathabar *System of* HUMIDITY CONTROL

(ADVANCED AIR CONDITIONING

When inquiring specify FP7074 — see handy form pages 2-3

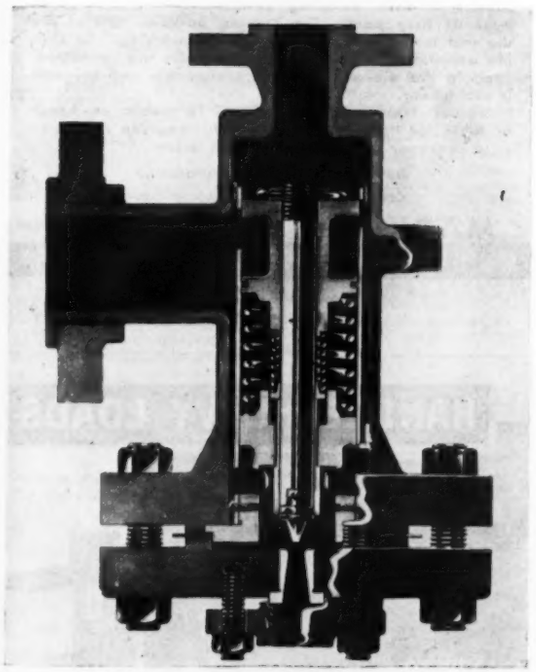
Recirculating Valve Aids Centrifugal Pump Operation

Eliminates pump failures caused by insufficient flow of fluid through pump

Uses — Valve may be applied to any centrifugal pump to eliminate pump failures resulting from insufficient flow of fluid through the pump, causing overheating and destruction of the pump. Insufficient fluid flow arises from failure of fixed recirculating orifices, failure of prime mover to drive the pump at sufficiently high speed or to restrictions in the discharge piping.

Features — Full pump protection is provided throughout full range of capacity.

Description — The system consists of an automatic recirculating valve operated from the fluid flow and designed to



Recirculating valve is easily installed in existing pump piping

by-pass the minimum quantity of fluid required to eliminate pump overheating. As the quantity of fluid passing through the pump increases the by-pass quantity is automatically throttled and is reduced to zero when the output of the pump is sufficient to prevent pump failure. Valve may be installed in existing pump piping merely by removing any convenient elbow in the discharge piping upstream of all checks and stops. With little or no flow through the pump, the by-pass is wide open, recirculating enough fluid to prevent overheating. If the discharge rate starts to increase, the plug of the automatic recirculating valve approaches its seat, decreasing the quantity of fluid recirculated. When the flow through the discharge line is of sufficient magnitude to prevent overheating of the pump, the by-pass valve closes tight, allowing all of the pump output to pass through the discharge line. On decreasing flows, the above cycle is reversed.

HAMMEL-DAHL CO., Dept. FP, 243 Richmond St., Providence, R. I.

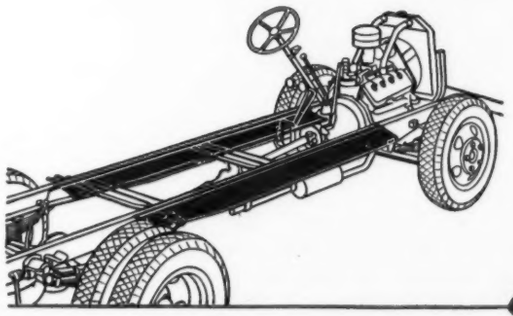
When inquiring specify FP7075 — see handy form pages 2-3

REGISTRATIONS *SHOW* IT — OPERATORS *KNOW* IT!

"FORD TRUCKS LAST LONGER!"

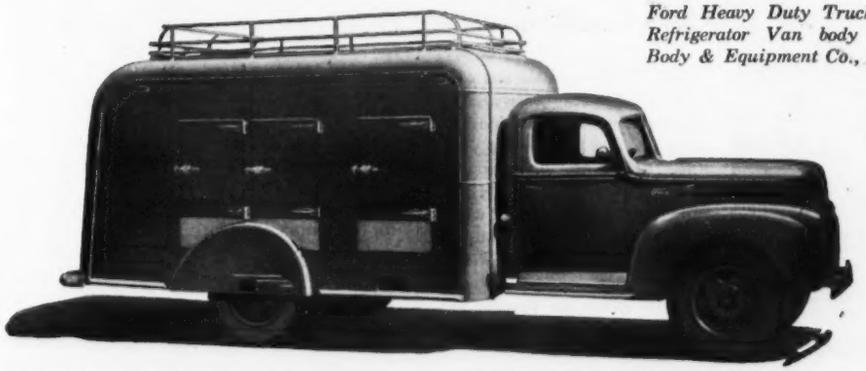
One big reason—

FORD FRAMES STAND UP!



One of the big reasons why 78 per cent of all Ford V-8 Trucks ever built are still in use, is found in Ford frame engineering. Ford Light Duty Half-Ton units, for instance, have true *truck* frames—parallel side-rails—full SAE 34-inch width, taking standard bodies—rear kick-up and side-mounted springs for extra-low load height—alligator jaw cross-member—great strength and rigidity, for longer life to cab and body. The full-channel side-rails of Heavy Duty frames are *doubled* between springs, as illustrated, increasing side-rail strength 46 per cent—a construction far superior to old-fashioned fishplates.

Ford



Ford Heavy Duty Truck with special Refrigerator Van body by American Body & Equipment Co., Dallas, Texas.

Only Ford offers all these long-life features: choice of 2 great engines, the 100-H.P. V-8 or the 90-H.P. Six—Flightlight aluminum alloy, 4-ring pistons—short, rigid, fully counterbalanced cast alloy steel crankshaft—big brakes, with non-warping, score-resistant cast drum surfaces—extra heavy sheet steel in fenders, hood, cowl and cab—4-pinion differential with triple roller bearing, straddle-mounted axle drive pinion.

There are *more than fifty* such examples of Ford endurance-engineering in today's Ford Truck. NO OTHER TRUCK BRINGS YOU ALL THESE IMPORTANT EXTRA VALUES AT ANY PRICE. Each one adds to the years of faithful service you can confidently expect from your Ford Truck. Let your Ford Dealer point them out to you.

FORD TRUCKS

MORE FORD TRUCKS IN USE TODAY THAN ANY OTHER MAKE

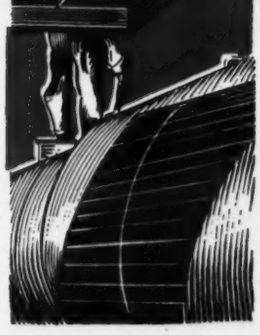
When inquiring specify FP7076 . . . see information request blank, pgs. 2-3

Balance

WITH **CHIKSAN**

COUNTERBALANCED

SWIVEL JOINTS



You save the trouble and expense of bolting or welding counterbalance connections to your Swivel Joints when you use CHIKSAN *Ball-Bearing* Swivel Joints...because CHIKSAN Joints are provided with counterbalance connections as an integral part of the Swivel Joint. Lines are quickly and easily fitted up merely by threading in pipe of required length and attaching counterbalance weight, thus making the line lighter and easier to handle. Many other applications are in use. Write for latest Chiksan Catalog. Over 500 different Types, Styles and Sizes for every purpose.

REPRESENTATIVES IN PRINCIPAL CITIES

EXPORT REPRESENTATIVE:
Chiksan Export Co., Brea, Calif.
Branches: NEW YORK 7, HOUSTON 2

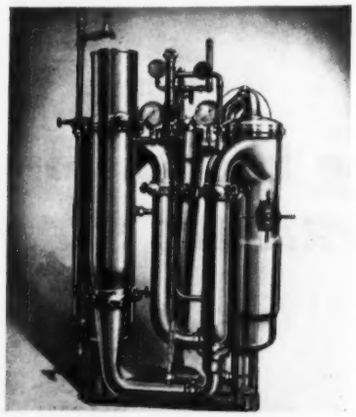
CHIKSAN — BALL BEARING SWIVEL JOINTS FOR ALL PURPOSES — CHIKSAN COMPANY, BREA, CALIFORNIA — New York 7 — Houston 2

When inquiring specify FP7077 — see handy form pages 2-3

Production

Vacuum Pasteurizer Has High Destructive Effect on Germs Yet Preserves Delicate Flavor

Pasteurization is combined with partial vacuum cooling



Has normal rated capacity of 5,000 pounds of cream per hour

Uses — For the pasteurization of milk and milk products and the processing of cream for butter, ice cream mix, milk for cheese, and other milk products.

Features — Milk and milk products can be pasteurized with an extremely high destructive effect on bacteria, yeasts and molds, while at the same time any weed and weed flavors are removed. Refinements protect natural flavor and preserves inherent food qualities. It removes air gases and other volatile substances, and assures an improvement in the body and texture of butter. Pasteurization is combined with partial cooking in a vacuum in this process. More efficient neutralization of cream is realized. Treatment may be varied to suit any grade of cream. Flash pasteurization by direct contact of the cream particles with steam of adjusted temperature in a low vacuum is featured. Extraneous objectionable flavor is removed by steam distillation in an intermediate vacuum. Cooling and toning of the cream is done in a high vacuum.

Description — This unit has three connected stainless steel vacuum chambers. The first chamber is a pasteurizing chamber. Here the pasteurizing medium, steam is, by instant expansion in a vacuum, standardized in temperature to the point at which it is desired to pasteurize, before making contact with the cream particles. This avoids local overheating and oiling off of the fat and damage by concussion. On entering the pasteurizing section, the cream falls into the expanded steam in a shower of droplets. In the second or intermediate section of the machine, steam distillation is applied, its intensity being variable at desired limits. Cream, on passing on into the third or high vacuum section of the machine is subjected to a considerable reduction in temperature, the extra heat being removed in the form of water vapor or steam. The very brief exposure to heat and the instantaneous cooling by vacuum results in improved body and texture in butter. Three sizes of units are offered, the largest having a rated capacity of 15,000 pounds of milk per hour and 12,000 pounds of cream per hour. Full information on all three models and extended uses of them in the dairy and allied industries may be had on request.

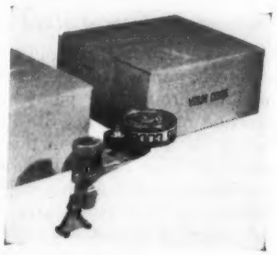
CHERRY-BURRELL CORP., Dept. FP, 427 W. Randolph St., Chicago 6, Ill.

When inquiring specify FP7078 — see handy form pages 2-3

MARK BOXES *Automatically*

ROLACODER 100
Saves Time, Labor, Money

ROLACODER 100
Marks
Cartons
Crates or Boxes
Without
Extra Handling



Unit illustrated is installed alongside a conveyor, case sealer, or other handling equipment. It marks packages as they pass. The moving package rotates the die and ink rollers, mechanizing the marking. By simple adjustment, changes in package size are permitted. Type in the die-wheel is interchangeable and the unit is self-inking.
Rolacoder 100 may be furnished to mount on bench or table for hand operation where boxes do not move on a conveyor or where production is low.

Have you a marking problem?
Consult us — no obligation.

MARKING EQUIPMENT
ADOLPH GOTTSCHO, INC., 195 DUANE ST., NEW YORK 13, N.Y.

When inquiring specify FP7079 — see handy form pages 2-3

HANDLE HEAVY LOADS

Faster, Safer, Cheaper . . . Use

YALE HIGH-LIFT PLATFORM TRUCKS

Yale High-Lift Platform Trucks are built to lift and carry enormous tonnage. There are narrow models to operate easily in congested quarters. Elevating loads to the ceiling is easy because of the high-lift feature.

These exceptionally fast and flexible trucks are the last word in modern engineering design. Made of the finest alloy steels, they withstand years of rough and tough going. There is a Yale Electric Industrial Truck to meet every requirement. Catalog gives complete information. Write for it today.

YALE — THE YALE & TOWNE MANUFACTURING CO. — 4530 Tacony Street — Philadelphia 24, Pa.

When inquiring specify FP7080 — see handy form pages 2-3

GROEN
STAINLESS STEEL STEAM-JACKETED MIXER TYPE
KETTLE

FOR MORE EFFICIENT FOOD PROCESSING

THERE'S A GROEN KETTLE FOR EVERY NEED

Engineered for highly reliable performance . . . soundly constructed for dependable service . . . that's the famous GROEN Mixer Type Kettle. Wide used in Food Plants because it heats quickly, uniformly; agitates thoroughly; suits the most exacting demands. Get details. Write us. GROEN MFG. CO., 4533 W. Armitage Ave., Chicago 39, Ill.

GROEN WORLD'S LARGEST PRODUCERS OF STAINLESS STEEL STEAM JACKETED KETTLES

When inquiring specify FP7081 — see handy form pages 2-3

Uniform Separation

FOOD PRODUCTS — CHEMICALS — METALLICS NON-METALLIC MINERALS

The new model GAYCO Centrifugal air separator makes possible the uniform and increased recovery of fine material within a range of 40 to 400 mesh.

- Greater Capacity
- Cleaner Trailings
- 99% Through 325 Mesh
- 25% to 30% greater recovery of fines
- Not affected by variation in speed or rate of feed

The Gayco Separator Handles

SUCH PRODUCTS AS

BAGASEE, CASEIN, COCOA POWDER, COTTONSEED MEAL, FERTILIZER, GROUND HAIR, GROUND OATS, GUM ARABIC, SOY FLOUR, SPICES, SUGAR

Universal Road Machinery Co.

RUBERT M. GAY DIVISION 117 Liberty St. New York 6, N. Y.
Canadian Representative: F. H. Hopkins & Co., Ltd., Montreal
FACTORY & LABORATORY, KINGSTON, N. Y.

When inquiring specify FP7082 — see handy form pages 2-3

Production

Positive Pressure Vane-Type Pump Handles Non-Lubricating Liquids

No centrifugal force required to maintain volumetric efficiency

Uses — Designed for handling non-lubricating liquids such as water.

Features — Incorporated in the pump are two composition bearings requiring no lubrication beyond that furnished by the liquid being pumped. Vanes are of the same material as the bearings. By special design of the vanes and the application of the proper radius on the vane edges, the vanes are held in contact with the pump chamber. Thus no centrifugal force is necessary to maintain volumetric efficiency. The pump is specifically designed for use in systems having a relief valve and therefore has no bypass valve built into the pump design. Shaft sealing is accomplished by means of a mechanical rotary seal.

Description — Delivery is about ½ gallon per minute. Operating pressures are from zero to 30 pounds per square inch and the unit is self priming. At 1/15 hp. motor is available in either 110 or 220 volts A.C. or D.C. Further information on the unit is obtainable.

EASTERN ENGINEERING COMPANY, Dept. FP, New Haven, Conn.

When inquiring specify FP7083 — see handy form pages 2-3

★

Little Things in Plumbing Cause Big Losses

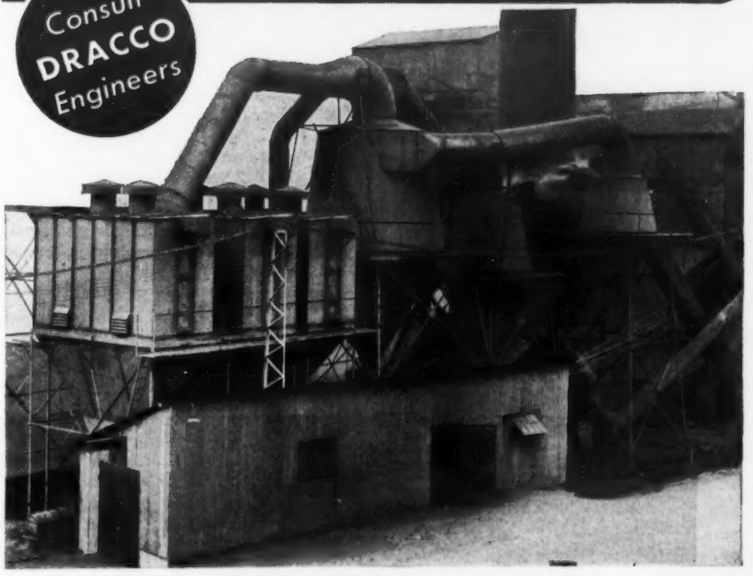
A 32 page booklet calls attention to "litle things" in making installations of piping systems that lead to loss of time, labor, and materials on plumbing and heating jobs. It is estimated that these "trifles" cost the plumbing and heating industry $2,000,000 a year. Leaky joints are claimed to be responsible for a large portion of the loss of time, labor, and material according to the booklet. Material on good pipe threading is cited. Methods are outlined to show the proper method for laying out a satisfactory plumbing job. Many pictures illustrate the wrong and the right way in which to do a job, and the use of wrenches and other tools gone into. A complete list of tools commonly used on plumbing and heating jobs and piping symbols is appended.

THE GRABLER MANUFACTURING COMPANY, Dept. FP, 6565 Broadway, Cleveland, Ohio.

When inquiring specify FP7084 — see handy form pages 2-3

Stop Dust the DRACCO WAY and SAVE MONEY

Consult DRACCO Engineers



It pays to control dust even if the amount is small. For dust is ALWAYS an expense, damaging bearings, causing excess wear of working parts, and slowing down production. Remember . . . dust ALWAYS causes a loss, and DRACCO Dust Control ALWAYS saves money. There is no place for dust in any efficiently operated plant. Why not discuss your dust problems with DRACCO Engineers. Their recommendations . . . based on thirty years of experience in dust and fume control . . . may lead to considerable savings in your plant.

For Further Information Write

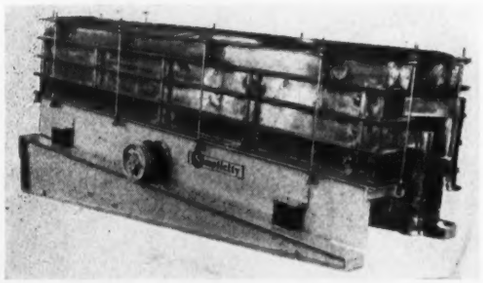
DRACCO CORPORATION

4035 E. 116th St., Cleveland 5, Ohio New York Office: 130 W. 42nd St.

DUST CONTROL EQUIPMENT
PNEUMATIC CONVEYORS • METAL FABRICATION

When inquiring specify FP7085 — see handy form pages 2-3

450 G. P. M. of starch passed through a 150 mesh screen cloth



The above capacity is being handled by the 2' x 10' Simplicity screen illustrated. This unit has two screen trays, each taking half the total feed with pans carrying off the liquid passing both screens. In this operation the entire unit is built of 316 stainless steel.
These 100% sanitary screens are also available in mild steel and 188 stainless and in one, two, three and four trays, 4', 6', 8', and 10' long.

Write
For recommendations covering
your own problems

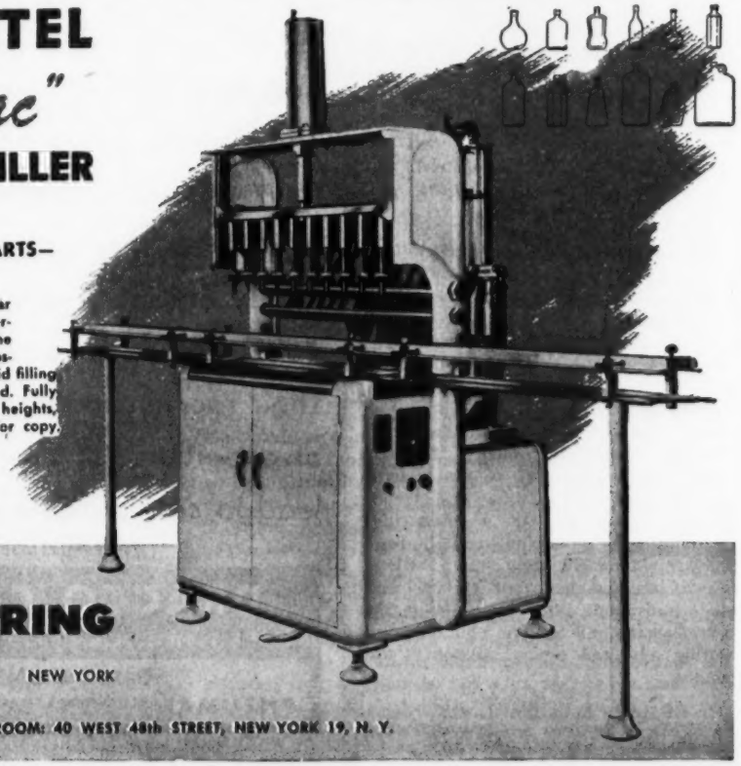
SIMPLICITY ENGINEERING COMPANY
DURAND, MICHIGAN
For Canada: Waterous Limited, Brantford, Ontario

When inquiring specify FP7086 . . . see information request blank, pgs. 2-3

THE NEW ERTEL *"Pneumo-Vac"* VACUUM BOTTLE FILLER

FILLING SPEED MEASURED IN QUARTS—50 BOTTLES PER MINUTE

The new Ertel "Pneumo-Vac" Vacuum Bottle Filler is designed to reduce physical effort. It is operated by a balanced foot valve which allows the operator full use of both hands. Drippage is positively prevented while unit is in operation. Liquid filling height can be accurately and quickly regulated. Fully illustrated bulletin giving floor area, bottle heights, etc., is available without obligation. Write for copy.



ERTEL
ERTEL ENGINEERING CORPORATION
KINGSTON NEW YORK
NEW YORK CITY SALES OFFICE AND SHOWROOM: 40 WEST 48th STREET, NEW YORK 19, N. Y.

When inquiring specify FP7087 . . . see information request blank, pgs. 2-3

Production

Portable Refrigerated Centrifuge Maintains Constant Temperatures Within Plus or Minus 2 Degrees

Interior of guard bowl cooled to —32° F. or lower

Uses — Has been successfully used in research in the chemistry of the influenza bacillus.

Features — This model offers the laboratory analyst nearly all the advantages of larger permanent type installations plus portability. Centrifuge and compressor are combined in one attractive cabinet mounted on casters, and both units are operated from a single cord and plug which can be

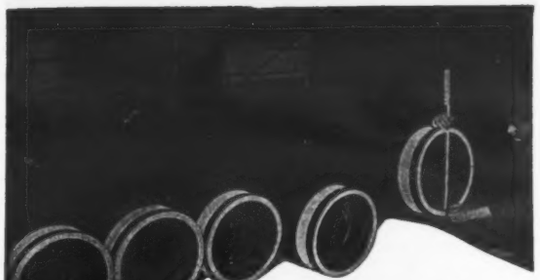
Portable unit is 28 x 44 x 42 inches

connected to the ordinary lighting circuit. Constant temperatures plus or minus 2° can be maintained. Compressor is of ample capacity to cool the interior of the guard bowl to 32° F. or lower with any of this equipment operating at maximum speed and a room temperature of 80° F.

Description — Protective guard inside which the centrifuge head rotates is made of ¼" thick steel plate, surrounded by adequate heat insulation, and a copper cooling coil of ample capacity is provided inside the guard. Centrifuge motor is of the verticle type, flexible mounted, and a speed indicating tachometer, temperature indicator, temperature control and speed control reostat are built into the cabinet. Double pole toggle switches are provided for the compressor and centrifuge motors. The steel cabinet is finished in baked white Dulux enamel with chrome plated trim, is ventilated to provide cooling for compressor and centrifuge motors and is equipped with a hinged back panel for easy access to both units. Literature may be had covering this machine and the many accessories offered which include bottles and tubes.

INTERNATIONAL EQUIPMENT COMPANY, Dept. FP, Boston 35, Mass.

When inquiring specify FP7088 — see handy form pages 2-3



ACID AND ALKALI RESISTANT

HAVEG is a molded plastic, which is completely resistant to most acids or alkalies. Its chemical resistance is uniform throughout its entire mass. It is not a lining or coating.

HAVEG Chemical Equipment is made in standard tanks, pipe, towers, fittings, valves, fume duct and related items, also a variety of special equipment.

Send for Bulletin F3 which gives complete design, engineering and application data.

HT-43

HAVEG CORPORATION
NEWARK, DELAWARE
FACTORY—MARSHALLTON, DELAWARE

CLEVELAND 550 Leader Building · CHICAGO 1201 Palmolive Building · DETROIT 2832 E. Grand Blvd. · LOS ANGELES 601 W. Fifth St.

When inquiring specify FP7089 — see handy form pages 2-3

GARDWELL Products

HIGHEST QUALITY GARDWELL OIL-CHEM SAFETY CLOTHING

Resists Oils, Grease, Acids and Water — Feather-weight — Extremely Durable and Long Wearing — Made from Plastic Sheeting, not a coated fabric. Sewed with special acid and oil resisting thread.

★ **GARDWELL OIL-CHEM COAT** made with seamless front closes in back with eyelet and ties. Has close fitting collar and elastic wrists, leakproof shoulder and side seams. Available in any length or size.

★ **GARDWELL OIL-CHEM APRON.** Outlasts other materials many times for workers in oils, grease, chemicals, etc. Available in bib or waist styles, in a wide range of sizes or to order.

Write for complete information and big catalog of safety clothing and equipment.

Safety CLOTHING AND EQUIPMENT Co.
7016 EUCLID AVENUE · CLEVELAND 3, OHIO
PHONE EN[illegible] 1722

When inquiring specify FP7090 — see handy form pages 2-3

Production

Floor Liner Has No Brushes

Available in 2½ gallon capacity and may be easily cleaned with kerosene

Uses — For marking traffic lanes in plants, loading platforms, and storage rooms.

Features — Operation is on the spreader principle. No brushes or sprays to get out of order. Easy fast application is featured. The unit works close to piled material or other projections and uses any kind of "zone" paint.

Works close to piled material

Description — After use the spreader may be cleaned by submersion in kerosene. Standard spreaders are available 2 to 6 inches wide. Most popular size is the four inch and will be shipped on order unless otherwise specified. Information on this equipment is supplied.

INDUSTRIAL PRODUCTS COMPANY, Dept. FP, 2820 N. Fourth St., Philadelphia 33, Pa.

When inquiring specify FP7091 — see handy form pages 2-3

★

Non-chlorine Germicide Produces Low Bacterial Count in the Dairy Industry

A six page leaflet describes one of the best means of maintaining optimum bacteriological control in the dairy industry. Through the use of a chart and explicit descriptions is illustrated the sanitizing effectiveness, simplicity and economy of a new odorless, non-toxic, non-irritating concentrated germicidal detergent. Like most other catio-active germicides, this preparation is incompatible with soaps and other anion-active detergents. It is a 10% water solution of the active ingredient, N (acyl colamino formylmethyl) pyridinium chloride. Bulletin D is available on request.

EMULSOL CORP., Dept. FP, 59 E. Madison St., Chicago 2, Ill.

When inquiring specify FP7092 — see handy form pages 2-3

Specify SCHUTZ-O'NEILL PULVERIZERS

For Fast, Fine, Uniform Grinding

Cinnamon
Dehydrated Foods
Cocoa, Pepper, Cloves
Vanilla Beans
Powdered Milk
Food Colors
Soy Beans
Starches

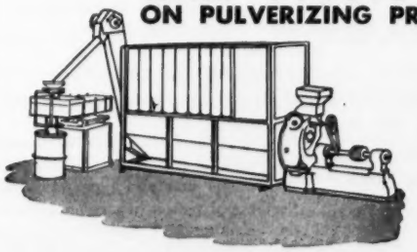
All Barks, Herbs, Roots and other dry, grindable stocks with oil content up to 20% to 30%.

FOR BATCH OPERATION

A Schutz-O'Neill Mill with Receiver Box is ideal equipment. Receiver box relieves air pressure through cloth top, which lifts off to empty or clean box. You can use a separate receiver box for each product.

For general use in pulverizing a great variety of food products, spices, seeds and similar materials, the Schutz-O'Neill Pulverizers are unexcelled. The principle of centrifugal air force impact is fast, produces a uniform product, and will maintain relatively high outputs for superfine grinding up to 400 mesh. For products with high moisture or oil content, Schutz-O'Neill also has efficient and proven equipment. Schutz-O'Neill Pulverizers are made in 12", 16", 20", 22", 24", and 28" sizes, with capacities ranging up to 2,000 lbs. per hour, depending upon kind of material and fineness desired.

***Consult* SCHUTZ-O'NEILL ON PULVERIZING PROBLEMS**



Mill Plan 45 — Mill, expansion Tubular Collector, Elevator, Gyrator Sifter. An efficient set-up for continuous operation.

Schutz-O'Neill has a great variety of Mill Plans for different purposes. If you will write us your requirements, products to be pulverized, output desired, and send a sample, Schutz-O'Neill engineers will recommend the correct size and type of mill and the most efficient Mill Plan for your use. This in no way obligates you. Literature on request.

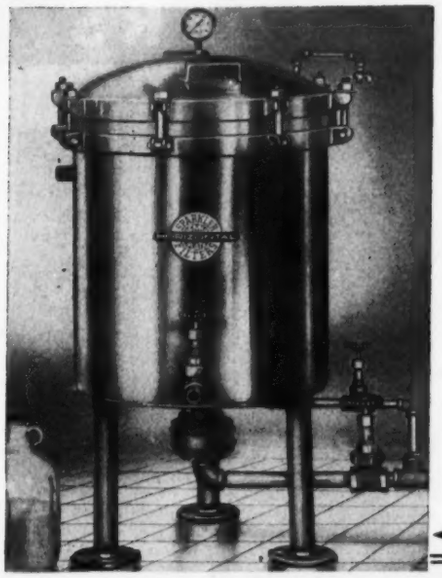
ESTABLISHED 1893 **SCHUTZ-O'NEILL CO.** DIVISION OF PARTEN MACHINERY CO.
PULVERIZERS · BREAKER MILLS · ROLLER MILLS · BURR MILLS · HAMMER MILLS
305 SIXTH AVENUE SOUTH • MINNEAPOLIS 15, MINNESOTA

When inquiring specify FP7093 — see handy form pages 2-3

What you want in a filter

Sparkler's HORIZONTAL PLATE *design*

gives you —



1—Uniform, high quality results to the end of each cycle.

2—Complete filtration of every batch; no unfiltered hold-over.

3—Ease of cleaning; disposable filter media.

4—Ease of recovery of solids; cakes may be blown dry.

5—Even the largest units may be portable.

Capacities 60 to 10,000 GPH.

SPARKLER MFG. CO.
231 Lake Street
MUNDELEIN, ILL.

SPARKLER HORIZONTAL PLATE FILTERS

← Model 18-D-12 STAINLESS STEEL. Capacity 1,200 G.P.H. on clear water.

When inquiring specify FP7094 — see handy form pages 2-3

Production

Neoprene Coated Coverall Is Impervious To Oils and Greases

Protection offered against acids and alkalies

Uses — This garment is designed to give protection to workers in hazardous locations.

Features — Worker protection from head to foot is assured. A hood snapped on at the back of the collar protects the head and goggles or face masks can be comfortably worn when the hood is in place. Impervious to oils and greases, the coverall resists acids and alkalies.

Description — Made from buff-colored neoprene impregnated airplane cloth the garment is attractive in appearance, does not readily discolor and is easily cleaned by the use of soap and water. When greases are spilled on the garment, a solvent cleaner may be used without harm to the fabric. Weight is three pounds and this lightness will be found especially useful in tank cleaning. Information may be had by writing.

BENSON AND ASSOCIATES, Dept. FP, 310 S. Michigan Ave., Chicago 4, Ill.

When inquiring specify FP7095 — see handy form pages 2-3

To get MORE Refrigeration capacity with your present compressor . . . install the NIAGARA *Duo-Pass* AERO CONDENSER

It saves 15% to 35% of Power

● In hot weather, reducing the head pressure from 195 lbs. to 165 lbs. adds 10% to 15% extra capacity to your refrigeration system.

Users of the Niagara Aero Condenser, with the new patented Duo-Pass, have gained such advantages —and have saved from 15% to 35% of power, and 95% of water, consumed by present equipment.

These savings are permanent, because the Duo-Pass pre-cooling prevents clogging of condenser tubes with scale; and they are inexpensively gained because the Aero Condenser replaces both cooling tower and shell-and-tube condenser. For Bulletin, address Dept. FP-106.

NIAGARA BLOWER COMPANY
25 Years of Service in Air Engineering
405 Lexington Ave., New York 17, N. Y.
Field Engineering Offices in Principal Cities

When inquiring specify FP7097 — see handy form pages 2-3

"*LIGHTNIN*" TWO-WAY ACTION SPEEDS UP FOOD PROCESSING

Wherever there is a blending or cooking process, "*LIGHTNIN*" Mixers will give you a better and more uniform product.

Wherever you have a problem in heat transfer, an engineered "*LIGHTNIN*" Mixer application will bring you the desired temperature change at the required rate.

Let Mixing Equipment Engineers show you how "*LIGHTNIN*" Mixers can be adapted to the manufacture of your product and save you time, manpower and money.

Below are listed a few of the successful applications of "*LIGHTNIN*" Mixers in the Food Processing Field.

CANNING AND PRESERVING
Juices—Soups—Fruits and Jellies

DAIRY PRODUCTS
Milk—Beverages-Buttermilk

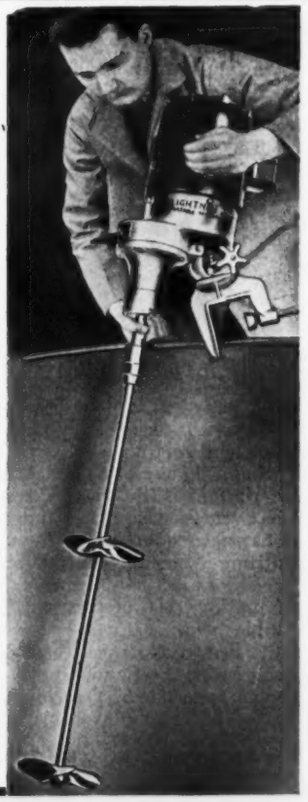
STAPLES
Syrups—Shortening—Extracts and Flavors

Catalog B-75 on "*LIGHTNIN*" Portable Mixers is packed full of information. Besides describing the various sizes and types of "*LIGHTNIN*" Portable Mixers, it has a comprehensive section on "Selecting the Proper Portable Mixer" which gives recommendations for 35 different common materials. Just send in the coupon and a copy will be sent you by return mail.

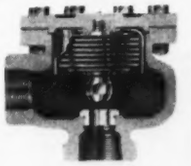
MIXING EQUIPMENT CO., INC.
1032 GARSON AVE., ROCHESTER 9, N. Y.

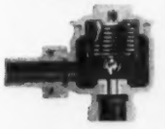
Please send me free copy of Catalog B-75, "*LIGHTNIN*" Portable Mixers.
Name .....
Company .....
Address .....

MIXING EQUIPMENT CO., Inc.
1032 GARSON AVE. • ROCHESTER 9, N.Y.



how to select FAST, POSITIVE STEAM TRAPS





Check for 6 Features

1. NO AIR BINDING. Discharge both air and water.
2. NO FREEZE-UPS. Drain completely when cold.
3. NO DRIBBLING. Close tight when steam is in trap.
4. NO ADJUSTMENT NEEDED for varying pressures.
5. NO WATER-LOGGING.
6. BIG DISCHARGE.

NICHOLSON BELLOWS-TYPE STEAM TRAPS have all 6 "musts," including 2 to 6 times greater discharge capacity. 5 types: sizes ¼" to 2"; pressures to 225 lbs.

Bulletin 544 or see Sweet's

W. H. NICHOLSON & CO.
184 OREGON ST., WILKES-BARRE, PA.
Valves ★ Traps ★ Steam Specialties

When inquiring specify FP7098 — see handy form pages 2-3

When inquiring specify FP7096 . . . see information request blank, pgs. 2-3

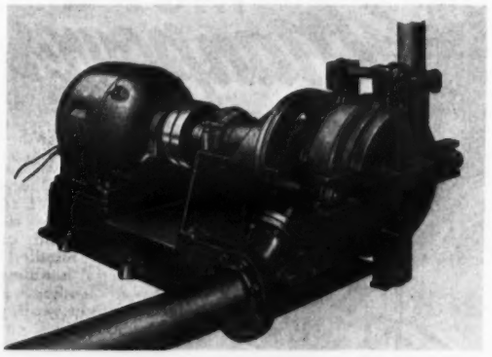
Slurry Pump Handles Abrasive Solids and Chemicals in Suspension

Gland of the pump is under suction pressure only

Uses — This pump handles all types of mixtures containing abrasive solids and chemicals in suspension, including acid slurries and sludges, caustic liquors, milk of lime; also slurries containing soda ash or concentrates, tailings, slag, residue from filters and classifiers, coal, silt, and washing solids. It will be found ideal for handling cement and glass sand slurries.

Features — Developed from a large background of experience in supplying pumping requirements to the mining industry, this pump provides features which greatly reduce packing troubles and overcome the uncertainty of proper hub sealing water pressures. At the same time it has ability to handle maximum suction lifts as well as practically unlimited positive suction heads. Suction is taken from the drive side, thus its packing is subjected only to the suction or positive head pressures. This means that the pump operates equally well under high suction lift, or a positive head, and that it may be connected directly to any tank or be cut into the line as a booster pump without an intermediate pressure tank or suction hopper.

Description — Heavy, wear-resistant parts are used in the construction of this unit. On dismantling only four bolts are required to be removed. Impeller shaft can be renewed without touching suction or discharge piping. There are no internal studs or bolts, no internal joints or fits. Shell is interchangeable for either right hand or left hand



Furnished in 2, 3, 4, 5, and 6 inch sizes

rotation. Suction and discharge nozzles can be rotated around the axis of the pump to positions in any of the four quadrants. Low velocity is used in the suction chamber and the chamber is a replaceable casting not integral with the bearing frame. With the clamping effect of the bolts on the discs, the shell is not subject to high stress. Consequently, shell can be made of a large variety of materials, including those of high abrasive resistance though not necessarily of high mechanical strength, such as glass or porcelain. Power requirements are low. More information may be had from the manufacturer.

MORRIS MACHINE WORKS, Dept. FP, Baldwinsville, New York.

When inquiring specify FP7099 — see handy form pages 2-3

V-Belt In Sheave
Clearly, it's the sides of a V-Belt that do all the gripping on the pulley and get all the wear against the sheave-groove wall. That's why longer life for the sides means longer life for the belt!
THE CONCAVE SIDE
A GATES PATENT

The **SIDEWALL** of Your V-Belt does **MORE** Work **NOW** than ever before!

--that's why the CONCAVE SIDE has become Even MORE IMPORTANT!

The moment you think about it you realize, of course, that the *sidewall* is the part of a V-Belt that really gets the *wear*.

It's the sidewall that has to grip the pulley. It has to pick up all the power from the driver pulley, transmit that power to the tension member and then deliver to the driven pulley all the power that pulley ever receives.

That is the perfectly natural reason why you have always noticed that the sidewall of the *ordinary* V-Belt is the part that wears out first. Clearly, anything that lengthens the life of the sidewall will lengthen the life of the belt.

The simple diagrams on the right show clearly why the ordinary, *straight-sided* V-Belt gets excessive wear along the *middle* of the *sides*. They show also why the Patented Concave Side *greatly reduces* sidewall wear in Gates Vulco Ropes. That is the simple reason why your Gates Vulco Ropes are giving you so much longer service than any straight-sided V-Belts can possibly give.

Straight Sided V-Belt — FIG. 1

How Straight Sided V-Belt Bulges When Bending Around Its Pulley — FIG. 1A

You can actually feel the bulging of a straight-sided V-Belt by holding the sides between your finger and thumb and then bending the belt. Naturally, this bulging produces excessive wear along the middle of the sidewall as indicated by arrows.

Gates V-Belt with Patented Concave Sidewall — FIG. 2

Showing How Concave Side of Gates V-Belt Straightens to Make Perfect Fit in Sheave Groove When Belt Is Bending Over Pulley — FIG. 2A

No Bulging against the sides of the sheave groove means that sidewall wear is evenly distributed over the full width of the sidewall—and that means much longer life for the belt!

4610

Stronger Tension Members in Today's Belts Put Even GREATER LOAD on SIDEWALLS!

Now that Gates *Specialized* Research has resulted in V-Belts having much stronger tension members—tension members of Rayon Cords and Flexible Steel Cables, among others—the sidewall of the belt is often called upon to transmit to the pulley much heavier loads. Naturally, with heavier loading on the sidewall the life-prolonging Concave Side is more important today than ever before!

Gates

THE MARK OF SPECIALIZED RESEARCH

THE GATES RUBBER COMPANY

DENVER, U. S. A. ***World's Largest Makers of V-Belts***

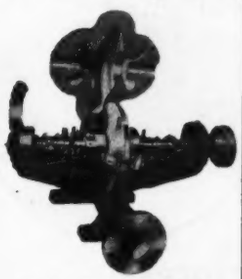
GATES VULCO ROPE DRIVES

Engineering Offices and Jobber Stocks IN ALL INDUSTRIAL CENTERS of the U. S. and 71 Foreign Countries

When inquiring specify FP7100 . . . see information request blank, pgs. 2-3

PEERLESS
(Formerly Dayton-Dowd)
Horizontal Centrifugal PUMPS

General Service
Continuous Duty
A Wide Range of Sizes and Capacities
Up to 60,000 G.P.M.



Peerless Type "A" Split Case
Capacities: up to 60,000 g.p.m. Single Stage—Double Suction. Embodies most advanced hydraulic design and efficiencies. Ball Bearing Type.

Effectively used in all types of industries where high-grade pumping is needed under stress of pressures and high temperatures. Peerless Centrifugal pumps can be furnished in other than standard specification metals and dimensions for specific pumping problems.

Learn of the many advantages gained when you pump with a Peerless. Write Today.

PEERLESS PUMP DIVISION
FOOD MACHINERY CORPORATION
Canton 6, Ohio • Quincy, Illinois • Los Angeles 31, California
DISTRIBUTORS IN ALL PRINCIPAL CITIES

When inquiring specify FP7101 — see handy form pages 2-3

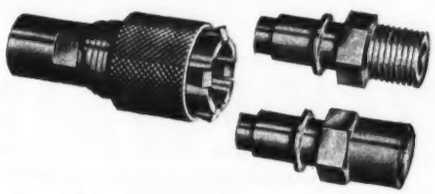
When inquiring specify FP7102 — see handy form pages 2-3

Production

Air Hose Coupling Withstands 1000 Lb. Pressure

Gasket changes made in one minute — no dis-assembly of coupling body required

Uses — This is a leakproof air hose coupling for working pressures up to 1000 pounds and also will handle oxygen, oil, aromatic fuel and kerosene.
Features — In addition to providing a positive seal against leaks, the coupling has gaskets that take only a minute to change, it may be connected or disconnected in a very short time.
Description — Coupling body has ¼ inch female pipe threads and is available with or without a self sealing valve. A choice of two nipples is provided, one with ¼ inch male and the other with ¼ inch female pipe threads. Entire unit is made of solid aluminum bar stock, built to aircraft specifications. A quick pull down and push-up on a knurled ring and the coupling is connected with a safe, leak proof seal. Another quick pull of the ring disconnects the coupling instantly. Literature on the equipment may be had by writing.



Fast connection and disconnection effect 85% time savings

E. B. WIGGINS OIL TOOL COMPANY, INC., Dept. FP, 3424 Olympic Blvd., Los Angeles 23, Calif.

When inquiring specify FP7103 — see handy form pages 2-3

★

Double Action Type Water Demineralizer Produces Water of Great Purity

Will stay in operation longer between regeneration

Uses — For water demineralization in laboratories and industrial plants.
Features — Double action feature allows the unit to stay on the line longer between regenerations. This means less work for the operator and lower cost per gallon as the cost of operating a demineralizer lies largely in the labor spent in regeneration.
Description — It is so called double action because two cation resin beds and two anion resin beds are employed. Water passes through two complete ion exchange cycles. This demineralizer is manufactured in six models, ranging from 3 gallons to 1000 gallons per hour capacity. Single action 2 bed models in the same capacity ranges are also available. Complete line is described in the manufacturer's Bulletin No. 112.

THE BARNSTEAD STILL & STERILIZER CO., INC., Dept. FP, 2 Lanesville Terrace, Forest Hills, Boston 31, Mass.

When inquiring specify FP7104 — see handy form pages 2-3

KEEP HANDS FREE
— from Contagious Wash Bowl Contacts

Hands touch nothing but the clean *running* water when a sanitary Bradley DUO-Washfountain is used. This convenient new wash facility, with its foot-controlled spray, and self-flushing bowl, allows no water to collect and form contaminating scum.

The DUO was designed for small washrooms in factories, schools, institutions, and public buildings. One DUO replaces two ordinary washbowls with resultant savings in faucets, piping, plumbing connections, floor and wall space.

Water consumption is also reduced and much maintenance work and expense eliminated. Bradleys are nationally distributed through plumbing jobbers. BRADLEY WASHFOUNTAIN CO., 2267 W. Michigan Street, Milwaukee 1, Wis.

Send for interesting new Bulletin 464-D.

BRADLEY *Duo washfountains*

When inquiring specify FP7105 — see handy form pages 2-3

MORE *Manpower*

WITHOUT PAYROLL PROBLEMS OR LABOR COST!

SPEEDLIFT — the new 1946 Adjustable, Reversible, Portable BELT CONVEYOR! It loads — unloads — elevates — stacks bags and boxes, crates and cases, cartons, bales and bundles! It speeds up material handling in warehouses, loading platforms, freight yards, production lines, mills, plants, docks, etc.

SPEED UP with SPEEDLIFT'S Many Exclusive Features!
- One-piece Frame Construction.
- Adjustable to Every Elevation from Horizontal to 35°.
- Small Truck (22" x 62") Permits Use in Confined Areas.
- Flat 18" wide Conveying Surface.
- Endless Belt — 14" wide, RUFFTOP 3-ply, 28-oz. duck rubber covered.
- Reversible Switch at both ends.

Write for your free copy of illustrated bulletin SL-246.

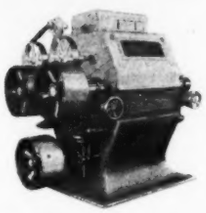
KEEP 'EM ROLLING WITH **SPEEDWAYS** CONVEYORS, INC.
1264 NIAGARA ST. BUFFALO, N. Y.

Represented by experienced Material Handling Equipment Engineers in principal cities.

When inquiring specify FP7106 — see handy form pages 2-3

OUTSTANDING EFFICIENCY
LOW OPERATING COST
LARGE-VOLUME PRODUCTION

WITH
SPROUT-WALDRON'S
IMPROVED "46"
ROLLER MILL



with
SPROUT-WALDRON'S
IMPROVED
'46 ROLLER MILL

Like all the other machines in the **complete** SPROUT-WALDRON line, S-W's **IMPROVED** Roller Mill is expertly designed and engineered. Famous for its outstanding efficiency on large-volume production, this machine is exceptionally economical and easy to operate. Call your Sprout-Waldron representative or write for complete details on the Sprout-Waldron line . . . . the machinery you need for truly efficient production.

SPROUT-WALDRON & COMPANY
Manufacturing Engineers
MUNCY **PENNSYLVANIA**

When inquiring specify FP7107 — see handy form pages 2-3

THE CLARK
METHOD
OF MATERIAL
HANDLING INVITES
INSPECTION

LIFTS-
CARRIES-
TIERS

GAS OR ELECTRIC POWERED

Write Today for "MATERIAL HANDLING NEWS"

CLARK TRUCTRACTOR
Division of CLARK EQUIPMENT COMPANY
BATTLE CREEK, MICHIGAN
OTHER PLANTS BUCHANAN, JACKSON, BERRIEN SPRINGS, MICHIGAN

Prices on CLARK products will not be advanced in excess of increased costs

When inquiring specify FP7108 — see handy form pages 2-3

Production

Semi-Automatic Strapping Unit

Machine tensions, cuts and seals in continuous sequence a wide variety of boxes and cartons

Strapping unit in operation

Uses — This semi-automatic one-piece strapping tool tensions, cuts and seals in three continuous operations.

Features — It will strap boxes, cartons, crates, packages or bundles in a wide range of sizes and weights. A counterbalanced arm of the tool mount permits the strapping machine to swing into position without effort. When the strapping operation is completed the tool mount raises the strapping machine from the package or box.

Description — Unit is available for use with ⅜ x .015, ⅜ x 0.20, ½ x .015, ½ x .020 inch straps. It is light in weight with aluminum castings housing the hardened steel moving parts. Further information will be supplied those interested.

SIGNODE STEEL STRAPPING COMPANY, Dept. FP, Chicago, Ill.

When inquiring specify FP7109 — see handy form pages 2-3

★

Metal Inserts Prevent Erosion, Triple Condenser Tube Life

Condenser tube life can be prolonged as much as three times by using Flowrites, according to an eight-page bulletin. These metal inserts protect against erosion. Available in various lengths. Bulletin shows report of tests conducted at M.I.T. Complete with tables, graphs, pictures and instructions for easy installation. Write for literature.

CONDENSER SERVICE & ENGINEERING CO., Dept. FP, 95 River St., Hoboken, N. J.

When inquiring specify FP7110 — see handy form pages 2-3

USE THE CLOSURE COMBINATION WITH THE

Seal

BIG FOOD PACKER SAYS...
"Our product requires utmost care in growing through shipping. Former packing proved inadequate . . . Silverstitching was installed. Cartons are now stronger, unaffected by dampness."

UNAFFECTED BY DAMPNESS

SilverStitch — STAPLING WIRE
SilverStitchers — STAPLING MACHINES

- One-piece, continuous length, 5 and 10 pound coils . . . cuts loading time
- Always manufactured uniform in width and gauge
- Galvanized to resist rust
- Makes stronger, surer closures than other methods . . . unaffected by weather
- Few moving parts . . . vital ones reversible . . . for lower maintenance costs
- Adjustable, single pedal, foot-rest treadle control
- Operate easily, quietly
- Heavy duty construction, low power consumption . . . for long, thrifty service

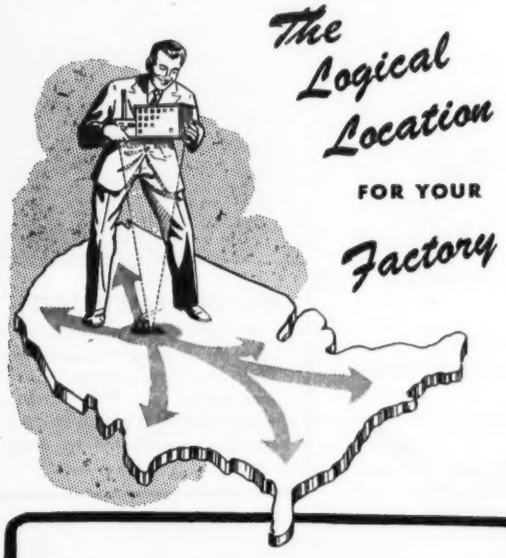
SEALING SHIPPING CONTAINERS BY STITCHING IS FASTER, STRONGER, AND MORE ECONOMICAL

ACME STEEL COMPANY
NEW YORK 7 ATLANTA CHICAGO 8 LOS ANGELES 11

When inquiring specify FP7111 — see handy form pages 2-3

The West Is Growing

PUEBLO
COLORADO



LOGICAL IN SIZE .... A growing industrial city of 81,696 population that has experienced a 37 per cent increase in permanent residents since the 1940 census.

LOGICAL FOR TRANSPORTATION FACILITIES .... Pueblo is located at the hub of direct rail, air and highway routes to leading markets in the East and West.

LOGICAL FOR LABOR RELATIONS .... Willing and cooperative Western labor is available for your industry in this, the Industrial Center of seven Western States.

LOGICAL IN CLIMATE .... Mild Winters, cool summers and low humidity give ideal conditions for year around operations. Storage ceases to be a problem here, where arid conditions permit open air storage.

LOGICAL FOR LOCAL MARKETS.... Pueblo has the largest single manufacturing payroll in the State and is a progressive community in the center of a surrounding market of more than 600,000 prospective customers.

GET THIS FREE BOOK NOW

.... Write today on your firm's letterhead for your copy of "12 Points To Prosperity". No obligation, of course.

Pueblo, COLORADO
PUEBLO CHAMBER of COMMERCE • 211 W. 5th St. Box 1, Pueblo, Colorado

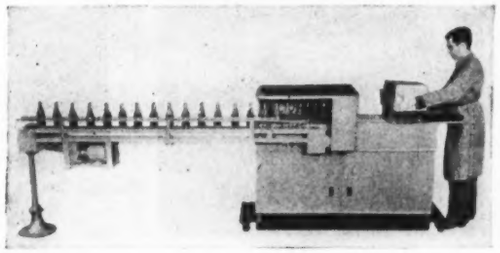
When inquiring specify FP7112 — see handy form pages 2-3

Unscrambling Unit Used For Sorting Containers in Plant

60 to 240 containers handled per minute in operation which eliminates breakage

Uses — To systematically and automatically unscramble or regiment a carton, box or crate of bottles, jugs, jars, cans or other similar containers which has been unloaded on the table of the machine, in a manner that permits them to be conveyed one after another to the conveyor without the aid of human hands or any personal attention.

Features — With this unit, one operator can unload from



Eliminates necessity of operator handling mouth of bottle

60 to 240 bottles, jars, cans, or containers of most any size per minute from a carton onto the conveyor and discharge them to filler in a single line.

Description — Unit meets all sanitary requisites. Information on the unit will be furnished on request.

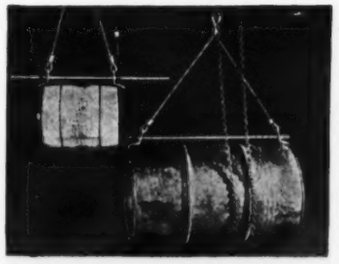
ISLAND EQUIPMENT CORPORATION, Dept. FP, 101 Park Ave., New York 17, N. Y.

When inquiring specify FP7113 — see handy form pages 2-3

★

Safety Drum Sling Is Specially Designed For Hoisting Drums

Heavy clips mounted on a rod with an adjustable pressure spring at each end assures firm grip



Spacing of clips is quickly altered

Uses — Makes possible the handling of heavy drums, barrels, kegs, chemical and oil containers, large cans and similar items with ease and safety.

Features — Heavy clips mounted on a rod with an adjustable pressure spring at each end grip the container securely until it is deliberately released. The spacing of these clips can be quickly altered and put in place to fit any size barrel, drum or keg.

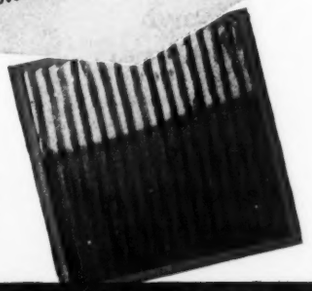
Description — Sling is equipped with 5/16" plow steel wire rope and has a minimum breaking strength of 8,000 pounds. The entire assembly is hot dip galvanized to prevent rust. Further information can be secured.

WIRE AND CABLE DIVISION, THE WIND TURBINE COMPANY, Dept. FP, Westchester, Pa.

When inquiring specify FP7114 — see handy form pages 2-3

NEW TURCO METHOD
CLEANS AIR FILTERS IN 15 MINUTES!
STOPS FIRE HAZARD—NO ODOR
NON-INJURIOUS TO METAL

With Turco's new method of cleaning air filters, no special equipment or skilled help is needed. A solution of Turco Aktiv is used in a cold tank. The loosened dirt and grease are easily flushed away with cold water hosing. Filter is dried in stream of air. The Turco Aktiv method has been tested and approved by leading air filter manufacturer.

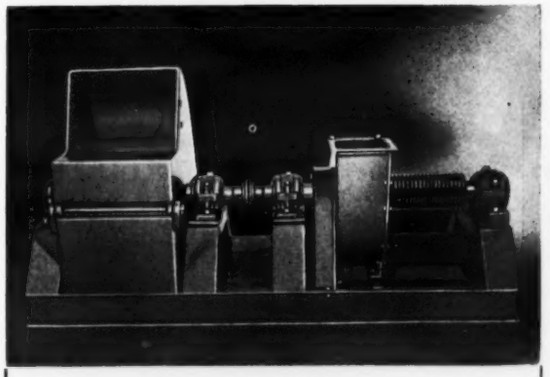


For complete data write Dept. FP-10

Turco
INDUSTRIAL CHEMICAL COMPOUNDS

TURCO PRODUCTS, INC. - Main Office and Factory: 6135 S. Central Ave., Los Angeles 1 - Offices and Factories 1606 Henderson St., Houston 18, Tex. - 125 W. 45th St., Chicago 9 - Offices and Warehouses: All Principal Cities

When inquiring specify FP7115 — see handy form pages 2-3



BUFFALO
HAMMER MILLS

For general and special purpose crushing and grinding. One-Half to 200 H.P.

Write for copy of new catalog.

BUFFALO HAMMER MILL CORP.
172 MAIN STREET BUFFALO 2, NEW YORK

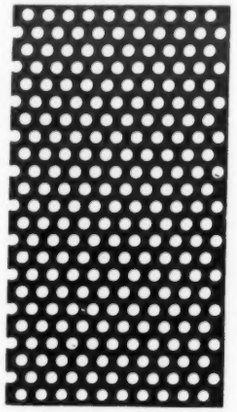
When inquiring specify FP7116 — see handy form pages 2-3

WHATEVER YOUR

PROCESS SCREENING PROBLEMS

Hendrick will furnish screens to meet your exact requirements for screening or sizing. Hendrick Perforated Metal Screens, of any desired shape and size of opening, are fabricated from stainless steel, aluminum, copper, bronze, brass, Monel, nickel, or other commercially rolled metals; flat, flanged, or curved to any diameter.

For special types of operations, screens with nozzle perforations, milled slots and wedge slots are also available. Write for complete information.



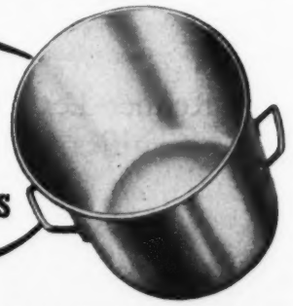
Perforated Metals
Perforated Metal Screens
Architectural Grilles
Mitco Open Steel Flooring,
"Shur-Site" Treads and
Armorgrids.

HENDRICK
Manufacturing Company
48 DUNDAFF STREET, CARBONDALE, PA.
Sales Offices in Principal Cities

When inquiring specify FP7117 — see handy form pages 2-3

Hackney MILWAUKEE

SEAMLESS STEEL CONTAINERS



for Easier, Safer Handling and Storing

There isn't a weld or joint in the entire construction of Hackney Seamless Steel Containers — they're cold-drawn to shape. Strong and durable, they stand up under the toughest use. Hackney Containers are proving their advantages over ordinary containers in interdepartmental handling of raw products during the manufacturing process . . . in storage of materials . . . throughout the food plant. They are used for holding foodstuffs, liquids, chemicals, ice., etc., as well as food scraps.

Hackney Seamless Steel Containers can be furnished in all popular sizes — 5 to 60 gal. capacity; galvanized; tinned, or black. Write today for full details.

Hackney MILWAUKEE
PRESSED STEEL TANK COMPANY
Manufacturers of Hackney Products
1349 Vanderbilt Concourse Bldg., New York 17 — 1459 S. 66th St., Milwaukee 14
208 S. LaSalle St., Room 2074, Chicago 4 — 557 Roosevelt Bldg., Los Angeles 14
211 Hanna Bldg., Cleveland 15
— CONTAINERS FOR GASES, LIQUIDS AND SOLIDS —

When inquiring specify FP7118 — see handy form pages 2-3

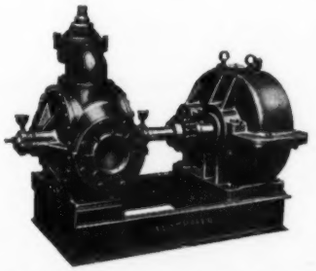
Production

Pump Has Inbuilt Reduction Gear

Designed for heavy-duty service unit is self adjusting for wear

Uses — For pumping fuel and lubricating oil on cargo vessels and similar applications.

Features — The pump is designed on the swinging vane ("bucket design") principle, which makes it self adjusting for wear. Internal construction is bronze fitted.



Designed For Industrial And Marine Use

Description — Base of the unit is of structural steel and provides for the pump and the reduction drive unit. The prime mover which may be either engine or electric motor, is mounted separately. Anti-friction or sleeve bearings are furnished at the purchaser's option. Capacity is 750 GPM. at 150 psi. discharge pressure and the unit operates at 225 rpm. Industrial pumps of similar design are planned with speed variations from 150 to 400 rpm. and capacities of 200, 300, and 400 GPM. Pressures will be from 50 to 150 psi. and the units may serve in marine operations also. Mounting of the prime mover will be on the common base. Further information is available.

BLACKMER PUMP COMPANY, Dept. FP, Grand Rapids, Mich.

When inquiring specify FP7119 — see handy form pages 2-3

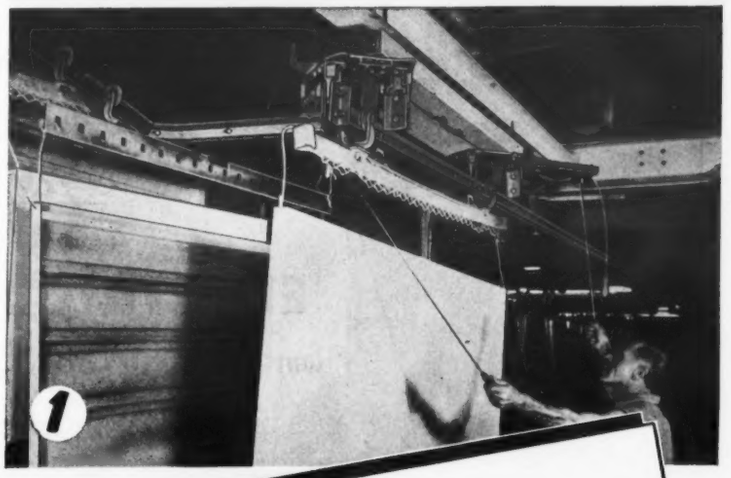
★

Electric Immersion Heater Is Automatic, Burnout-Proof

An "automatic safety" electric immersion heater with thermal link providing automatic temperature control; thermostat burnout protection and in-head thermo switch is described in pamphlet form. For all water tanks, stills, pipe lines. Write for Bulletin No. 2144.

AMERICAN INSTRUMENT CO., Dept. FP, Silver Spring, Md.

When inquiring specify FP7120 — see handy form pages 2-3



AMERICAN MONORAIL *System* Uses Power for SPOT Handling

Extreme flexibility of movement is carefully maintained in this hand operated American MonoRail System. Where quick change of trolley travel or passage of carrier through process is required, power driven equipment takes care of such spots as . . .

1. Crosstrack switches provide 90° transfer to shipping area as carriers roll off power conveyor in finishing oven.
2. Empty carriers raised to high level track for gravity return to loading station.

American MonoRail Engineers, with their wide experience in solving difficult handling problems, will gladly consult with you. Send for Bulletin C-1 illustrating hundreds of similar operations.

THE AMERICAN MONORAIL COMPANY
13109 ATHENS AVE. ● CLEVELAND 7, OHIO

When inquiring specify FP7121 — see handy form pages 2-3

Whether on little Hoppers —

or big Bins —

SYNTRON

"Pulsating Magnet"

ELECTRIC VIBRATORS

will keep them Open —

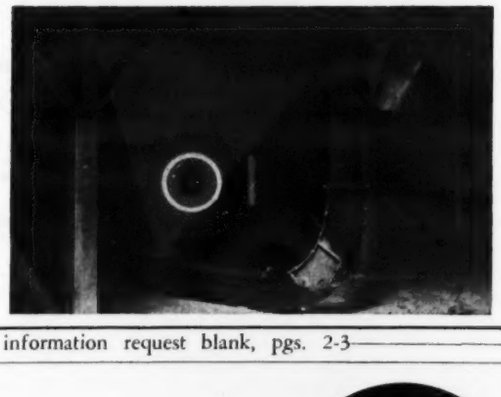
and FREE-FLOWING

3600 powerful, pulsating vibrations per minute penetrate the mass of material — break down arching and plugging — and eliminate pounding and sledging.

Rheostat control provides range of vibration amplitude to meet varying conditions.

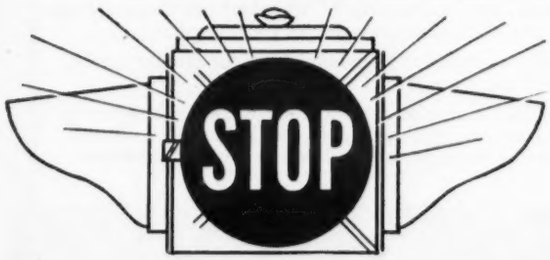
Manual control — or automatic control by hopper gate action — ON when the gate is open, OFF when the gate is closed.

Descriptive literature available — or send us a dimensional sketch of your troublesome hopper, giving the gauge of walls. We'll be glad to recommend the proper model.



SYNTRON CO., 111 Lexington, Homer City, Pa.

When inquiring specify FP7122 . . . see information request blank, pgs. 2-3



BREAKAGE AND SPILLAGE!

This free book tells how

Builders and users of bottling, labeling and capping machinery, here's how you can stop breakage and spillage on your container conveyors. This free booklet tells the complete story of Rex Table Top chain belts . . . the conveyor chain that's the closest approach to a level, continuous-moving table ever devised.

It contains interesting information and illustrations showing how Rex Table Top eliminates pile ups, tripping, and tipping of containers. It tells why you get a smooth transfer . . . why Table Top stays cleaner . . . why "jamming" and "jarring" can't happen.

This booklet supplies you with engineering information and data on chain sizes and dimensions . . . help for you in determining the right size for your installation. Send for Bulletin No. 464 today. Address Chain Belt Company, 1699 W. Bruce St., Milwaukee 4, Wisc.

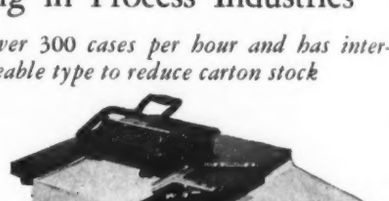
REX TABLE TOP CHAIN BELTS

CHAIN BELT COMPANY OF MILWAUKEE

When inquiring specify FP7123 . . . see information request blank, pgs. 2-3

Marker is Solution to Case End Marking in Process Industries

Will mark over 300 cases per hour and has interchangeable type to reduce carton stock



For imprinting corrugated cartons, wooden boxes, or barrel tops

Uses — As a carton and corrugated case marker. *Features* — This unit replaces stencil marking operations by hand, improves the appearance of the containers, makes reading of markings easier in darkened areas, and saves time and labor in general marking practice. It is adjustable to handle several carton sizes and has type interchangeability to reduce carton inventories. It is used particularly for marking brand names. *Description* — The printer will mark up to 6 x 9 or 5 x 13 inches. Its production is from 300 cases per hour and up depending on the size of the case and the operator. Availability is in several of the company's models to suit particular requirements. Some models are designed for marking flat cartons, wooden shooks or built up empty canned goods or jar cartons. Full information will be furnished on request.

ADOLPH GOTTSCHO, INC., Dept. FP, 1 Hudson St., New York 13, N. Y.

When inquiring specify FP7124 — see handy form pages 2-3

★

Refiner Leaf Type Filter Clarifies and Polishes

At low pressure drops, liquids having specific gravity of 1, flow at rate of 1 to 1.5 g.p.m. per sq. ft. of filtering surface

Uses — Designed for extremely fine filtration and for the removal of both emulsified and free oil from condensate, down to .01 parts per million. May be used as a polishing filter for water and condensate, alcoholic and other beverages, acids, alkalis, aromatics, drugs, paints, varnishes, lacquers, soaps, detergents, juices and liquid foods. *Features* — Unit is easily cleaned and has large capacity. At low pressure drops liquids having a specific gravity of 1 usually flow through at the rate of 1 to 1.5 g.p.m. per sq. ft. of filtering surface. Tight emulsions in condensate are broken and the equipment will remove all emulsified and free oil from an oil content as high as 90 parts per million down to .01 part per million. No chemicals are required for oil removal treatment. No back wash water is used. *Description* — This leaf type filter consists essentially of a series of vertical wire screen or cloth filter leaves arranged in parallel on a movable rack, enclosed within a horizontal cylinder having a quick-lock, pressure-tight door, and a mixing tank with two chambers for slurry and filtering material. The cylinder may be built of any metal suitable for the particular condition, or it may be of steel lined with rubber, plastic, or other material. Filtering elements may be of fine metal screens or any suitable

natural or synthetic fiber cloth, including glass. Each element consists of two very fine screens with a central intercrimped screen.

Operation — The proper filtering medium is first determined to suit the service conditions, and may be diatomaceous earth, asbestos, or in most cases, a mixture of both in varying percentages. Dispersion of the filtering medium is accomplished in a few minutes in the precoat (mixing) tank. The surface of the filter leaves is then precoated with the desired filter bed by means of recirculation. The filtering medium deposits itself securely on the screen, forming a compact yet porous bed, producing high flow rates and micronic filtration. This preparation of the filter bed requires less than ten minutes. The filter is now ready for production service, and cycles from 4 to 120 hours and more may be obtained without further attention. Upon completion of the filter cycle, the quick-lock door is opened, the leaves are rolled forward horizontally from the tank on the movable rack provided, and the spent filter medium is peeled from the surface of the permanent filter leaves. Taking the unit out of service, cleaning, precoating and placing it back into service is accomplished with ordinary unskilled labor within a total elapsed time of one-half hours. Details of the Refiner pressure leaf type filter described above and a standard filter of cartridge construction are contained in a bulletin which is available on request.

THE BLACKBURN-SMITH MFG. CO., INC., Dept. FP, Hoboken, N. J.

When inquiring specify FP7125 — see handy form pages 2-3

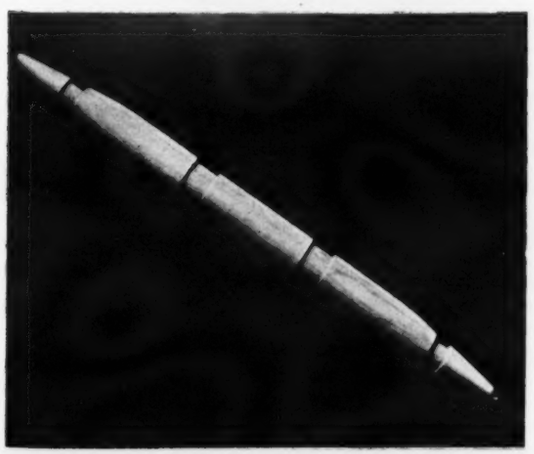
★

Hardwood Hog Gambrels Available

Standard size will hold any weight hog

Uses — Made of select hardwood this hog gambrel is strong enough to hold any weight hog.

Features — It is reported that the smooth, pointed ends



Hardwood hog gambrel

of the Basic hardwood hog gambrels make it easier to slip the hocks on and off.

Description — Center grooves are made to fit all standard hooks. Standard size is 1⅞" diameter and 22" long. Special sizes are available and made to specification.

BASIC FOOD MATERIALS, INC., Dept. FP, 806 Broadway, Cleveland, Ohio.

When inquiring specify FP7126 — see handy form pages 2-3

PAUL REVERE'S fame got in the way of his reputation. Everybody knows about his horseback ride, but few remember him as America's foremost silversmith . . . the leader in his field.

While Solar hasn't flashed any midnight alarms, our reputation is being overshadowed too. Like Paul, we're metal craftsmen – stainless steel fabricators. And we have quite a name as leading producers of intricate stainless aircraft parts (exhaust systems for P-38's, B-29's, P-80 jets). In fact this pre-eminence in the aviation field has obscured Solar's extensive production for other industries*.

By remembering Solar as specializers in stainless steel fabrication *serving many industries*, you may well find the answer to *your* stainless steel problem . . . by taking advantage of Solar's exclusive Sol-A-Die process, backed by 15 years of experience with stainless. Call or write Solar today.

SOLAR

STAINLESS PRODUCTS

*SOLAR DIVISIONS AND SUBSIDIARIES
Aircraft Manifold Division • Dairy Equipment Division
Fonda Film Processing Equipment Division • Stainless Castings Division • Hubbard Casket Company

SOLAR AIRCRAFT CO. • DES MOINES 5, IOWA • SAN DIEGO 12, CALIFORNIA • 60 EAST 42ND STREET, NEW YORK 17, NEW YORK

When inquiring specify FP7127 . . . see information request blank, pgs. 2-3

Swartwout Ventilation removes the *"bad breath"* of industrial operations

•

You can cut time losses, reduce spoilage and increase production with *better ventilation*

YOUR BUSINESS is one of the few exceptions if it doesn't produce a noticeable amount of "industrial bad breath"— fumes, smoke, fog, dust, heat, or odors. It pays you to check the possibilities of Swartwout Ventilation for your buildings. Better production and better worker morale are worth many times the economical cost of modern air-moving facilities.

Scientifically designed Swartwout ventilator types are used individually or in combination, according to your needs. The Airmover Line contains both gravity and powered type equipment, and intake louvers for vitally necessary fresh air. Swartwout engineering service, available in most principal cities, helps you to select the most effective ventilation equipment for your buildings.

Industry everywhere uses Swartwout Ventilation: steel mills, foundries, forge shops, food and chemical processing, heat treatment, paper mills, machine shops, etc. Profit by Swartwout's 45 years experience in handling ventilation problems. Write for details or see catalog in Sweet's Architectural File.

THE SWARTWOUT COMPANY
18439 Euclid Ave., Cleveland 12, O.

Swartwout
The Airmover Line
EQUIPMENT FOR EFFECTIVE ECONOMICAL VENTILATION OF INDUSTRIAL BUILDINGS

When inquiring specify FP7128 — see handy form pages 2-3

Reversible Impact Wrench Applies Heavier Torque Blow

Weighs only 3¾ lbs; one hand operation

Vulnerable parts constructed to give automatic compensation for wear

Uses — For driving and removing nuts, bolts and cap screws up ⅜ thread size.
Features — In its class this wrench introduces a new theory of impact mechanism designed to provide full striking power of the tool longer on steady production, assembly or maintenance.
Description — Rotatively striking impact jaws, set at a wide radius from the the spindle center, and a short, rigid spindle shank that delivers blows close to the work are some of the construction advances incorporated in the design. Weight is 3-¾ pounds and length is 5-⅞". Tools are designed for one hand operation. Other capacities will be available soon. Complete information is contained in Circular No. 565.

INDEPENDENT PNEUMATIC TOOL COMPANY, Dept. FP, Chicago 6, Ill.

When inquiring specify FP7129 — see handy form pages 2-3

★

Power Belt Conveyors Aid in Between Floor Movement of Plant Goods

Converts inaccessible places into usable space

Uses — Used in moving materials between floors. It will handle cartons, cases, bags or boxes.
Features — As much as 60% savings in time and manpower can be accomplished with this type of conveyor doing the work of moving goods up and down stairs in the fashion of an escalator. A continuous flow of materials is provided from floor to floor by the use of this equipment. Inaccessible and unused places in the back room on the next floor up or back in the loft can be made into efficient storage places with this equipment. Installation is quick and simple and need not interfere with normal factory operations. Units are shipped with belt, motor, wiring and framework built into a self contained ready to install assembly.
Description — Conveyors operate on standard available current. Accessories include: nosed over delivery section, starter and reversing switch, full length control bar, full length adjustable guard rails and support at each end of the conveyor. Powered portions of the conveyors are available in standard lengths of 10, 12, and 15 ft. and standard belt widths are 12 and 16 inches. Complete literature may be had.

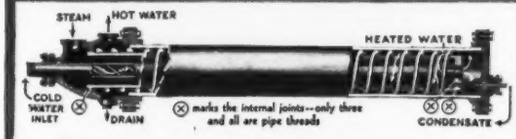
THE RAPIDS-STANDARD CO., INC., Dept. FP, Grand Rapids 2, Mich.

When inquiring specify FP7130 — see handy form pages 2-3

HOT WATER LIKE THAT!

with the

Johnson - *Instant* Heater



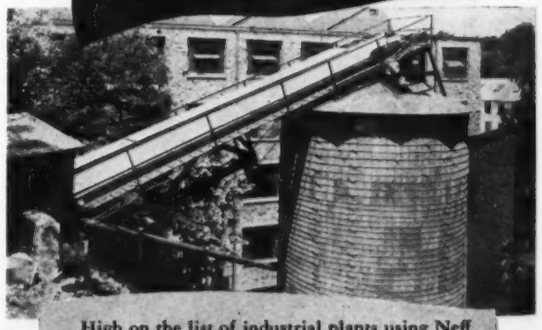
Where steam is available, heating water or other liquids is a snap with the Johnson "Instant" Heater. Hook it right up to your high pressure steam lines—its simple, rugged design eliminates any need for reducing valves. This means *more* heating, and *faster* heating, per unit of length. Years of dependable service have made it industry's favorite—for heating water, oil, and process liquids, for preheating boiler feed water and for booster service. Available with steam chamber of full pipe-thickness copper pipe or with lower cost all steel construction. All sizes, capacities.

Write for Bulletin

The Johnson Corporation
834 Wood St., Three Rivers, Michigan

When inquiring specify FP7131 — see handy form pages 2-3

OVER 1000 IN SERVICE



High on the list of industrial plants using Neff & Fry super-concrete stave bins, with conveyors to store and discharge bulky materials to point of use, are chemical and food processing plants. They handle coal, coke, kaolin, grain — anything that will flow. Particularly good for storing and chuting coal direct to stokers.

On the market for years and over 1,000 in service. Built in any capacity — anywhere. Trained erection crews. Rigid guarantee. Also monolithic type bins.

THE NEFF & FRY CO.
CAMDEN, OHIO

NEFF & FRY STORAGE BINS

When inquiring specify FP7132 — see handy form pages 2-3

Discussed in This Issue - - -

MACHINERY, EQUIPMENT *and* MATERIALS

Use this "quick-locator" when you want information on a specific type of machine, equipment or material. Everything discussed in this issue is given here, with page references. After checking the information here, if you want more data you can write manufacturer direct . . . or turn to pgs. 2-3 and use the handy "Information Request Slip." This is a special service provided by the Publisher . . . no obligation or charge, of course. The Publishers contact the proper manufacturers for you . . . information comes to you direct.

A

Adhesives 37, 43
Alloy, Chrome-Nickel-Bronze .. 60
Ammeters & Voltmeters 35
Aprons, Oilproof 79
Aprons, Plastic 54
Ascorbic-Citric Acid 36
Ascorbic-Citric Acid Mixture .. 41
Atomizers 58

B

Bag Closing Machines 26
Bags, Multiwall Paper ..Back Cover
Ball Bearings 54
Belting, Plastic Coated 89
Belts, Leather V 72
Benzoate of Soda 42
Benzoic Acid 42
Bins, Concrete Stave 88
Blowers, Pressure 54
Book — Food Canning 59
Book — Food Freezing 26
Boxes, Fibre 19
Brine Treatment 53
Bulk Handling System, Sugar .. 9
Burners, Oil 57

C

Carrot Oil 40
Cartons 19, 20
Cartons, Frozen Food 27
Castings, Stainless & Alloy 63
Centrifuges, Refrigerated 78
Chains, Conveyor 86
Chilled Water Units 63
Cleaners 52
Cleaners, Air Filter 84
Cleaners, Baking Pan 41
Cleaners, Food Plant 40, 44
Closing Machines, Bag 23
Clothing, Safety 79
Clutch, Automatic-Centrifugal .. 67
Coatings, Corrosion-Resistant .. 45
Coating, Plastic Cork 44
Coatings, Protective ..27, 43, 44, 53
Coatings, Refractory 39
Coatings, Roof 37
Coatings, Waterproofing 42
Coats, Oilproof 79
Cold Plates 44
Collectors, Dust 70
Colors, Food 11
Condenser, Refrigerant Gas 80
Condensate Return 63
Condenser Tube Inserts 83
Conduits, Prefabricated 15
Containers, Frozen Food 22
Containers, Seamless Steel 85
Control System, Remote Indicating 46
Controllers 62
Controls 28, 29, 55
Controls, Humidity 12, 30, 74
Controls, Liquid Level .. 15, 70
Controls, Temperature 12
Conveyors 4, 8, 82, 86
Conveyors, Bucket 12
Conveyors, Overhead 60
Conveyors, Portable 11, 13
Conveyors, Powered Belt ....., 88
Conveyor Replacement Parts .. 8
Conveyors, Screw 67
Conveyors, Utility 71
Coolers ..... 2nd Cover
Couplings, Air-hose 82
Coveralls, Neoprene 80
Crystallization Unit 68
Cutter, Pipe 60

D

Decals, Window 47
Degreasers 45
Demineralizer, Water 82
Detergent, Alkaline 42
Detergent, Bacterial 62
Draintrols 12
Drives, Roller Chain 66
Drives, V-Belt 81
Dry Ice 44
Dryers, Rotary 65
Dryers, Spray 17
Drying Systems, Flue Gas 10
Dust Collectors 50, 73, 77
Dust Collectors, Electronic 50

E

Elevators, Portable 50
Emulsifier-Homogenizer 63
Equipment Dairy ..... 2nd Cover
Expansion Joints, Packless 64
Extinguishers, Foam 69

F

Fabrication, Stainless Steel 87
Fabrics, Filter 45
Fastenings 54
Fillers, Frozen Food Carton 51
Fillers, Vacuum Bottle 78
Filter, Horizontal Plate 80
Filter Mediums 45
Filters 31, 48, 68, 86
Fire Extinguishers, CO_2 53
Fittings, Flared Tube 64
Flavolator 65
Flavoring, Fruit 9
Flavors, Food 11
Flooring, Industrial 44, 62
Foil, Aluminum 22-23
Fondant Machines 8

G

Gambrels, Hog 87
Gauges, Ionization 30
Gauges, Vacuum 66
Generators, Steam 13
Germicides 52, 79
Glassware, Laboratory 32
Gloves, Neoprene 71
Governors, Pump 61

H

Heat Transfer & Crystallization 52
Heater, Electric Immersion 85
Heaters, Electric 72
Heaters, Electric Unit 70
Heaters, Instant 88
Hoists, Electric 15
Homogenizers ..... 2nd Cover, 53
Hose, Fire 68

I

Ice Machines, Tube 6
Insect Control, Mechanical 68
Insecticides 42
Instruments, Density 35
Insulant, Thermal 41
Insulation Fiberglas 10
Insulation, Pipe 16
Interceptors, Grease 60

J

Jars, Vacuum 19
Joints, Rotary Pressure 4
Joints, Swivel 76

K

Kettles 77, 82

L

Labelers 27
Lifters, Vacuum Can 6
Lifting Machines 90
Lighting Equipment 54
Lighting Fixtures 12
Liners, Bag 24
Liners, Package 24
Location for Food Plant 84

M

Marker, Safety Line 79
Markers, Box 76
Markers, Case 86
Materials Handling 85
Matting, Rubber Floor 89
Matting, Wood-Link Floor 89
Meters, Flow 61
Meters, Water Purity 33
Microscope, Phase 28
Mills, Colloid 16
Mills, Hammer 84, 90
Mills, Roller 83
Mineral Medium, Porous 38
Mixers 3, 10, 60, 80
Mixer, Gas 66
Mixers, Mulling-Type 51
Motors, Electric 59
Motors, Hydraulic 13
Motors, Synchronous 58

N

Nozzles, Atomizing 70
Nozzles, Spray 11, 13, 14

O

Oilers 14
Overhead Handling 85

P

Packages, Frozen Food 27
Packaging Machinery 22, 24, 25, 26
Packaging Machines, Tabulating 25
Packaging Materials 20
Packing, T-ring 63
Pails, Inconel 74
Paint, Waterproof Masonry 40
Paints 20
Papers, Parchment 21
Papers, Waxed 21
Pasteurizers, Vacuum 76
Patch, Floor 71
pH Equipment 30, 32
Plumbing Handbook 77
Printed Wrappers 20
Processing Equipment .. 46, 53, ... 54, 67, 79, 82
Pulverizers 58, 79
Pumps 55, 58, 61, 72, 77, 85
Pumps, Bucket 69
Pumps, Centrifugal 73, 82
Pumps, Food 55
Pumps, Processing 55
Pumps, Proportioning 7
Pumps, Sanitary 33
Pumps, Slurry 81
Pumps, Vacuum 54, 55, 66
Pyrometers 34

R

Recorder Gas-Analysis 4
Refrigeration Systems, Centrifugal 56
Regulators, Temperature .. 32, 61
Relays, Solenoid 73
Resurfacer, Floor 90
Retort Control System 29
Riboflavin Concentrates 43
Rolls 45

S

Salt 36
Scales 15, 48
Screens, Liquid 78
Screens, Perforated Metal .. 74, 85
Screens, Vibrating 64
Seal, Mechanical 68
Sealer, Concrete 45
Sealers, Case 27
Sealers, Crimp 20
Sealers, Heat 20, 24
Sealer, Rotary 26
Seaplant Products 36
Seasonings, Spice 38
Separators, Air 77
Separators, Magnetic 69
Sifters, Laboratory 10
Silica Aerogel 41
Skid Platforms 58
Skids, Semi-Live 58
Slings, Drum 84
Sodium Phosphate, Vitreous .. 42
Softeners, Water 66
Solenoid Valves 50
Solvents 45
Speed Selector, Planetary 14
Spice Oils 39
Stacker, High-Lift 34
Stainless Steel Equipment 46
Steel, Stainless-Clad 67, 74
Sterilizers, Ultraviolet 55
Stitchers, Carton 83
Strainers, Porous Stone 61
Strapping, Steel 83
Sugar, Inverted 38
Sulfiting System, Continuous .. 42

T

Tanks, Stainless Steel 3, 67
Tanks, Stainless-clad Steel 67
Tester, Lab Circuit 34
Tester, Moisture 35
Thermometers 32
Thermometer, Maximum-Minimum 35
Threaders, Geared Pipe 49
Threaders, Pipe 61
Timers 55
Tomato Processing Data 51
Tools, Electric 5
Tools, Line & Fitting 5
Transmitters, Differential 31
Traps, Steam ..48, 52, 60, 80, ... 90, 3rd Cover
Trucks, Barrel 16
Trucks, Floor 58
Trucks, Hand 11, 74
Trucks, Industrial ..4, 12, 17, 73
Trucks, Lift 9, 64, 83
Trucks, Motor 56-57, 75
Trucks, Platform Highlift 76
Trucks, Tiering 12
Tubing, Stainless-Steel 52

U

Unscramblers 84

V

Vacuum Apparatus 56
Valves, Diaphragm 11, 58
Valves, Motor-Operated 70
Valves, Pressure Reducing 61
Valves, Recirculating 75
Valve Re-seating Machines 62
Valves, Shut-Off 16
Valves, Sight-Feed 71
Valves, Thermostatic Expansion 32
Valves, Throttling 16
Ventilating Equipment 88
Ventilators 57
Vibrators, Electric 86
Viscosimeter, Portable 62

W

Washfountains 82
Water Conditioning Service .. 56
Water Treatment 14
Weigher, Automatic 21
Weighers, Vibratory Feed 18
Wire, Stapling 83
Wrapping Machines .. 18, 24, 25
Wrenches, Impact 88

PROMOTE SAFETY
•
FURTHER SANITATION
•
REDUCE FATIGUE
•
PROVIDE COMFORT with

FLOOR MATTING

NEO-CORD COUNTER-TRED
The only successful oil and grease resistant matting.

TUF-TRED TIRE FABRIC MATTING
For wet areas. Long-wearing. Beveled nosing on all sides. 5/16" thick, up to 6' wide, any length.

AMERICAN COUNTER-TRED MATTING
A tough, durable rubber and cord mat. Ridged bottom affords aeration and drainage. Easily handled for cleaning. Keeps the feet dry. 3/8" thick, 24" wide, any length.

AMERIFLEX HARDWOOD LINK MATTING
Links are held on galvanized steel springwire framework. Lies flat. Follows contour of the floor. Beveled edges. Can be rolled or folded.

Write for prices and folder "A Mat for Every Purpose."

AMERICAN MAT CORPORATION
"America's Largest Matting Specialists"
1728 Adams Street Toledo 2, Ohio

When inquiring specify FP7133 — see handy form pages 2-3

FACTS FOOD PROCESSORS SHOULD KNOW ABOUT

1. PlasTex **is not** a rubber, synthetic rubber or nitro-cellulose compound coated belting, and should not be confused with these. There is **only one** PlasTex Belting.

2. PlasTex is a specially developed plastic coating that is impervious to oils, greases, alkalis, and moistures. It's a tough coating, made to resist temperatures up to 240° Fahrenheit.

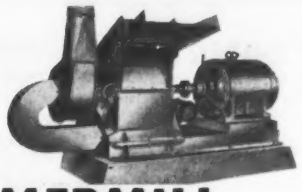
3. PlasTex is easy to clean — improves sanitation because it doesn't absorb odors or food particles.

4. PlasTex **outwears** other coated and uncoated beltings. Proof of this is to be found in results obtained by leading food processors, all over the U. S. A.

• **Get the whole PlasTex story — and a free sample. Write Dept. D.**

BUFFALO WEAVING & BELTING COMPANY
Chicago Buffalo 7, N. Y. New York
Serving Industry for Over Fifty Years

When inquiring specify FP7134 — see handy form pages 2-3



Bauer
HAMMERMILL

A favorite food, grain and feed grinder for generations and still the preferred mill. Ruggedly built and thoroughly dependable.

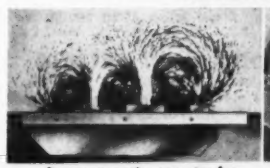
In a range of Commercial Sizes, embodying all modern features.

BAUER MAGNETIC SEPARATORS for spout or chute. Positively protects equipment from damage, and product from contamination by extracting pins, nails and other tramp metal.

Magnetic separators for use on picking tables also available and equally effective.

For construction details, size, weight and capacity data, write

THE BAUER BROS. CO.
SPRINGFIELD, OHIO



Bauer magnetic separator for spout or chute installation.

Bauer magnetic separator for picking table use.

When inquiring specify FP7135 — see handy form pages 2-3

TOUGH RESURFACER

FOR BROKEN Concrete or Wood Floors

Makes Durable Patch or Complete Overlay

Resurface or patch broken concrete floors with tough RUGGEDWEAR resurfacer. Here's a material which will stand up under the most punishing traffic conditions. Simple to install—no chopping or chipping required. Merely sweep out the spot to be repaired—mix the material—trowel it on. Holds solid and tight right up to irregular edge of old concrete. Provides a firmer, tougher, smoother, more rugged wearing surface. Used indoors or out. Dries fast.

MAIL COUPON for FREE TRIAL OFFER

FLEXROCK COMPANY
3642 Filbert St., Philadelphia 4, Pa.
Canadian Office: 21 King St., E, Toronto, Ont.

Please send me complete RUGGEDWEAR information and details of TRIAL ORDER PLAN—no obligation.

Name .....
Company .....
Address .....

When inquiring specify FP7136 — see handy form pages 2-3

Advertisers in This Issue

A
Acme Steel Company 83
Allis-Chalmers Mfg. Co. 46
Alvey-Ferguson Co. 4
American Air Filter Co. 50
American Mat, Corp. 89
American Monorail Co. 85
American Pipe & Construction Co., Amercoat Div. 45
Amon-Schuite Co. 26
Anderson Co., V. D. 90
Ansul Chemical Co. 42
Armstrong Machine Works 48
Associated Bag & Apron Co. .. 54
Atlas Foundry Co. 63
Aurora Pump Co. 73
Automatic Products Co. 32
Automatic Transportation Co. .. 34

B
Baker-Raulang Co. 12
Barber-Colman Co. 70
Bauer Bros. Co. 90
Blickman, Inc., S. 46
Bradley Washfountain Co. 82
Brookfield Engineering Laboratories 62
Buffalo Hammer Mill Corp. .. 84
Buffalo Weaving & Belting Co. 89
Buschman Co., E. W. 11
B/W Controller Corp. 70
Byron Jackson Co. 33

C
Carpenter Steel Co. 52
Case Co., A. T. 63
Chain Belt Company 86
Chase Bag Company 24
Cherry-Burrell Co. 40
Chevrolet Motor Div., General Motors Corp. 56, 57
Chiksan Company 76
Clark Tructractor Div., Clark Equipment Co. 83
Cleaver-Brooks Co. 13
Cochrane Corp. 63
Consolidated Packaging Machinery Company 24
Corning Glass Works 32
Crane Company 52
Creamery Package Mfg. Co. ..... 2nd Cover
Cuno Engineering Corp. 31

D
Detecto Scale Co. 48
Diamond Chain Co. 66
Diamond Crystal Salt Co. 36
Dracco Corp. 77

E
Eastern Engineering Co. 10
Economic Machinery Co. 27
Economy Engineering Co. 90
Electromode Corp. 70
Elgin Softener Corp. 66
Elwell-Parker Electric Co. 4
Enterprise Engine & Foundry Co. 65
Eriez Mfg. Co. 69
Ertel Engineering Corp. 78
Exact Weight Scale Co. 15

F
Ferguson Co., J. L. 27
Filter Fabrics 45
First Machinery Corp. 67
Flexrock Company 90
Food Machinery Corp. 51
Ford Motor Company 75
Foxboro Company 30, 35

G
Gates Rubber Co. 81
Gaylord Container Corp. 19
General Electric Co. 59, 72
Girdler Corp. 68
Gits Bros. Mfg. Co. 14
Gottscho, Inc., Adolph 76
Grinnell Co., Inc. 11, 64
Groen Mfg. Co. 77

H
Harper Co., H. M. 54
Haveg Corp. 79
Hendrick Mfg. Co. 85
Hooker Electrochemical Co. 42
Hunt Machine Co., Rodney 45

I
Ingersoll-Rand Co. 58
Ingersoll Steel & Disc. 74
Ironbound Box & Lumber Co. .. 58

J
Jabsco Pump Co. 55
Jeffrey Mfg. Co. 8
Jessop Steel Co. 67
Johnson Corp. 4, 50, 88

K
Kalamazoo Vegetable Parchment Co. 21
Klein Filter & Mfg. Co. 48
Krim-Ko Company 36

L
Lamson Corp. 71
Lapp Insulator Co. 7
Leavitt Machine Co. 62
Lee Metal Products Co. 82
Leeds & Northrup Co. 4
Leslie Company 61
Lift Trucks, Inc. 9
Link-Belt Company 64
Liquid Carbonic, Inc. 44
Ludlow Valve Mfg. Co. 16
Lumenite Electronic Co. 15

M
Magnus Chemical Co. 40
Magnus, Mabee & Reynard Inc. 39
Marco Co., Inc. 53
Meyercord Co. 47
Miller Wrapping & Sealing Machine Co. 24
Mixing Equipment Co. 80
Mortell Co., J. W. 44

N
National Engineering Co. 51
National Starch Products Co. 37
National Technical Lab. 32
Neff & Frey 88
Niagara Blower Co. 80
Nicholson & Co., W. H. 80
Nutritional Research Associates 40

O
Oakite Products Co. 44
Olds Alloys Co. 60
Oliver Machinery Co. 25
Owens-Corning Fiberglas Co. .. 10

P
Paisley Products, Inc. 43
Palmer Thermometers, Inc. 32
Pangborn Corp. 73
Peerless Pump Co. 82
Pfaudler Co. 3
Pfizer & Co., Chas. 41
Pioneer Rubber Co. 71
Powers Regulator Co. 12
Premier Mill Corp. 16
Pressed Steel Tank Co. 85
Protective Coatings Corp. 27
Pueblo Chamber of Commerce .. 84
Pulverizing Machinery Co. 58

R
Rapids Standard Co. 74
Reynolds Metals Co. 22, 23
Richmond Mfg. Co. 10
Ridge Tool Co. 49, 60, 61
Robbins & Myers, Inc. 15

S
Safety Car Heating & Lighting Co., Entoleter Div. 68
Safety Clothing & Equip. Co. .. 79
St. Regis Paper Co. ... Back Cover
Sarco Co., Inc. 60
Schaub Engr. Co., Fred H. .. 12
Schutze-O'Neill Co. 79
Screw Conveyor Corp. 67
Seedburo Equipment Co. 35
Shriver & Co., T. 68
Simplicity Engineering Co. 78
Solar Aircraft Co. 87
Sparkler Mfg. Co. 80
Speedways Conveyors Inc. 82
Sperti, Inc. 55
Spray Engineering Co. 11
Spraying Systems Co. 13
Sprout, Waldron & Co. 83
Standard Conveyor Co. 13
Stangard-Dickerson Corp. 44
Stange Co., Wm. J. 38
Steelcote Mfg. Co. 42
Stokes Machine Co., F. J. 66
Surface Combustion Corp. 74
Swartwout Co. 88
Swenson Evaporator Co., Spray Dryer Dept. 17
Syntron Co. 86

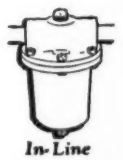
T
Taylor Instrument Co. 29
Thomas Truck & Caster Co. 16
Towmotor Corp. 73
Triangle Package Machy. Co. 25
Tri-Clover Machine Co. 5
Turco Products Co. 84

U
Union Special Machine Co. 26
U. S. Gutta Percha Paint Co. 20
Universal Road Machy. Co. 77
Upco Company 71

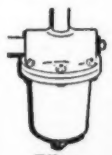
W
Wakefield Brass Co., F. W. 54
Wallace & Tiernan Co. 14
West Bend Equipment Co. 50
West Disinfecting Co. 42
Weston Electrical Instrument Co. 35
Wheeler Reflector Co. 12
Whiting Corp., LeVal Filter Div. 61

Y
Yale & Towne Mfg. Co. 76
Yarnall-Waring Co. ..14,. 3rd Cover

WHEN
regular steam traps won't do--



In-Line



Elbow

● Use Anderson specific purpose traps for installations where a regular trap won't do. For example—on higher pressures and temperatures use the Steel Series Super-Silvertop; for air elimination even when pressures drop (as overnight) to as little as a fraction of an ounce, use the Super-Silvertop series "B" traps; for handling large volumes of air, call for Thermal Air Eliminator equipped Super-Silvertops.

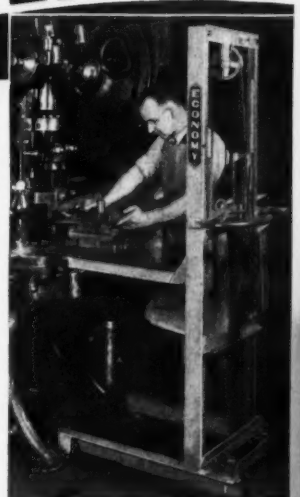
Whatever your needs may be, there's a Super-Silvertop that fills the requirements. Find out more about these Anderson steam traps—write today for *your* copy of "How To Choose A Steam Trap".

THE V. D. ANDERSON COMPANY
1966 West 96th Street • Cleveland 2, Ohio

SUPER-SILVERTOP ● STEAM TRAPS ●

When inquiring specify FP7137 — see handy form pages 2-3

Save production time with a
SHOPLIFTER



One man can handle heavy dies up to 500 lbs. alone.

•

Handy for general shop lifting jobs—loading trucks, etc.

•

Easily moved about on the 4" diameter wheels.

•

Platform, steel plate, 24"x24"
Overall height—6'0"
Platform lift—4'6"

•

Floor lock (optional) holds machine firmly to the floor.

•

Other Economy Lifting Machines of heavier capacities up to 5000 lbs. available.
Write for catalog.

•

PROMPT DELIVERY

2683 W. Van Buren St.
Chicago 12, Ill.

Price $157.50
Floor lock $10.00 extra.
Full Freight Allowed

ECONOMY ENGINEERING CO.

When inquiring specify FP7138 — see handy form pages 2-3

Would You Like

OCTOBER-NOVEMBER, 1946

to Receive FOOD PREVIEW Personally, Without Charge?

If you are a Chemist, Engineer or Executive, in a food processing plant, FOOD PREVIEW will be sent to you regularly, without charge, if you request it. BE SURE to give us your company name; the major products manufactured and your title or capacity OTHERWISE THE PAPER WILL NOT BE SENT YOU. Please type or print.

JUST MAIL THIS REQUEST To **Food Preview**
737 North Michigan Ave., Chicago 11, Ill.

Gentlemen: Please send me FOOD PREVIEW regularly, without charge or obligation.

Name ..... Title .....

Firm .....

Major Products Manufactured .....

Street Address .....

City ..... Zone Number .....

State .....

To Be Sure

you see every issue of FOOD PREVIEW, without charge, send your name, address, etc., as above. Otherwise, you may miss out.
If others in your plant would like to receive FOOD PREVIEW also, use form on back of this slip.

Would You Like

to Receive FOOD PREVIEW

Personally, Without Charge?

(SEE OTHER SIDE OF THIS SLIP)

OTHER PRODUCTION EXECUTIVES, ENGINEERS or CHEMISTS in our plants who would like to receive FOOD PREVIEW also, are:

Name ..... Title .....

Name ..... Title .....

Name ..... Title .....

Name ..... Title .....

Name ..... Title .....

"That's Interesting"

Favorite Meals

In preparation for postwar operation, United Airlines asked thousands of their passengers to fill out a questionnaire to see what they wanted in the way of air travel conveniences. There were 125 questions and over 19,000 United passengers took the time to fill out and mail the questionnaire. Among other things, United wanted to know what kind of meals to serve. According to the answers, the favorite dinner menu follows:

Tomato Juice or Fruit Cocktail or Shrimp Cocktail
Filet Mignon
Mashed Potatoes, Asparagus, Lima Beans
Hearts of Lettuce Salad
Ice Cream, Coffee

Each item of this menu was a winner in its classification. Nearly all had over 50% of the total vote. What's the Number One favorite of all foods? The very definite answer was Ice Cream. 72% rated it their favorite dessert. Those old favorites, apple pie and strawberry shortcake are still going strong with 50% and 49% respectively. But they are far behind King Ice Cream. (From the Cherry-Burrell Circle)

Soybean Safest Oilseed Crop

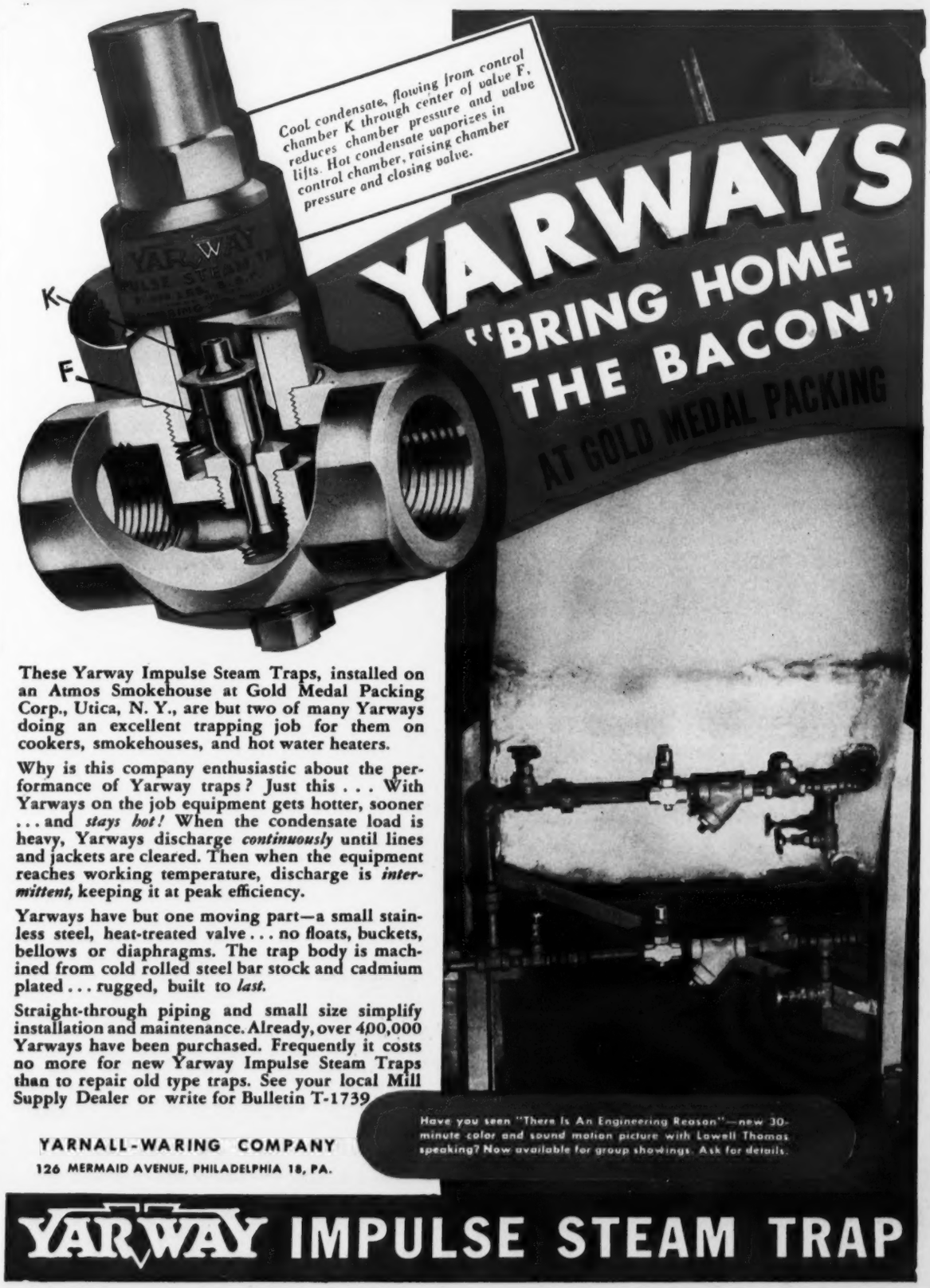
There is every indication that the great demand for soybean products will continue. Probably no other oilseeds crop affords more opportunity for research and development of new and useful products. The varied composition of the soybean places it in an important position as an economical source of several basic ingredients for processed food products as well as a wide variety of manufactured products. The soybean crop has proven itself to be particularly safe from the viewpoint of resistance to diseases, insect pests and adverse weather (From bulletin reporting address of W. H. Eastman of General Mills before American Soybean Assn.)

Vitamin A Synthesized

The war-secret synthesis of Vitamin A, hitherto obtained chiefly from fish liver oils, has been made synthetically, according to a recent announcement by Professor Nicholas A. Milas, of the Massachusetts Institute of Technology. The most successful synthetic process involves seven to eight chemical steps in which B-ionone, ethyl chloroacetate, acetylene, and derivatives of B-Hydroxy-butanone-2 are the principal raw materials used. Starting from B-ionone, the Vitamin A active product is produced in an overall yield of 10% to 15%. The biological potency of the product is only one tenth to one thirtieth that of pure Vitamin A crystals obtained from natural sources, but is 50 to 100 times greater than that of ordinary cod liver oil. (Aminco Lab News.)

Clad-Steels Aid in Gelatine and Apple Juice Production

In the manufacture of gelatine (and glue), "Nickle-clad" steel has been particularly helpful. Because its processes involve conditions varying from acid, through neutral, to slightly alkaline, food gelatine is extremely sensitive to metallic contamination. "Nickle-clad" steel has been used effectively in the fabrication of evaporators, storage tanks, open processing vessels, cooking tanks, and jacketed processing kettles. "Inconel-clad" steel has been used for specially designed gelatine and glue extractors. In selecting clad steels for processing apple juice, "Monel-clad" is satisfactory as the juice has little corrosive effect on it. Upon "Inconel" however, practically no deleterious effects are experienced. Tests conducted on freshly extracted, fully aerated, sweet apple juice showed the following corrosion rates. Inches-corrosion-penetration per year at 60° F. and 115° F. — "Inconel" .0000 at both temperatures, "Monel" .0004 and .0025 respectively. At these same temperatures the readings for nickel were .005 and .0033. (Data — Lukens Steel Co., Coatsville, Pa.)


Cool condensate, flowing from control chamber K through center of valve F, reduces chamber pressure and valve lifts. Hot condensate vaporizes in control chamber, raising chamber pressure and closing valve.
K
F
YARWAYS
"BRING HOME THE BACON"
AT GOLD MEDAL PACKING

These Yarway Impulse Steam Traps, installed on an Atmos Smokehouse at Gold Medal Packing Corp., Utica, N. Y., are but two of many Yarways doing an excellent trapping job for them on cookers, smokehouses, and hot water heaters.

Why is this company enthusiastic about the performance of Yarway traps? Just this . . . With Yarways on the job equipment gets hotter, sooner . . . and *stays hot!* When the condensate load is heavy, Yarways discharge *continuously* until lines and jackets are cleared. Then when the equipment reaches working temperature, discharge is *intermittent,* keeping it at peak efficiency.

Yarways have but one moving part—a small stainless steel, heat-treated valve . . . no floats, buckets, bellows or diaphragms. The trap body is machined from cold rolled steel bar stock and cadmium plated . . . rugged, built to *last.*

Straight-through piping and small size simplify installation and maintenance. Already, over 400,000 Yarways have been purchased. Frequently it costs no more for new Yarway Impulse Steam Traps than to repair old type traps. See your local Mill Supply Dealer or write for Bulletin T-1739

Have you seen "There Is An Engineering Reason"—new 30-minute color and sound motion picture with Lowell Thomas speaking? Now available for group showings. Ask for details.

YARNALL-WARING COMPANY
126 MERMAID AVENUE, PHILADELPHIA 18, PA.

YARWAY IMPULSE STEAM TRAP

—When inquiring specify FP7139 . . . see information request blank, pgs. 2-3—

HOW A ST. REGIS PACKAGING SYSTEM SAVES MONEY
for a manufacturer having limited* production

CASE HISTORY No. 5

One in a series of factual experiences of a group of American manufacturers with Multiwall Paper Bags.

This fifth case history in a series of MULTIWALL success stories, relates the savings effected by a cocoa manufacturing concern through the introduction of St. Regis Multiwall Paper Valve Bags and Machine Packaging. Prior to the installation of the St. Regis Packaging System this company used various types of packages . . . barrels, fibre drums, and open-mouth burlap bags with paper liners. Since their initial trial, about one year ago, St. Regis Multiwall Paper Valve Bags have been found to be the most efficient and economical container for the purposes of this company.

REDUCED LABOR COSTS: Prior to adopting the St. Regis Packaging System this company was using one man to fill the bags, one to weigh them, and one to sew them closed. Now, one operator can fill and check-weigh 25 more 100-lb. bags per hour than the former three man crew . . . a labor saving of 66% in filling and weighing.

INCREASED PRODUCTION: The original three man filling crew and a three man handling crew were able to handle only 4000-lbs. of cocoa per hour. Since the installation of the St. Regis Packaging System one man is able to supply the three-man handling crew with 6500-lbs. of cocoa for shipment to customers . . . an increase in production of 62½% over the old system.

AN EXAMPLE IN PACKAGING ARITHMETIC

QUESTION:

If it took three men one hour to fill, weigh and close 4000-lbs. of cocoa . . . how can one man fill, check-weigh and close 6500-lbs. in an hour?

ANSWER:

By changing over to a St. Regis Packaging System using a St. Regis Valve Bag Packer to fill Multiwall Paper Valve Bags.

REDUCED CONTAINER COSTS: In addition to the product protection afforded by multiple walls of kraft paper and the greater ease of handling Multiwalls, the customer discovered a saving of over 55% in bag cost by using Multiwall Paper Bags instead of Burlap Bags with paper liners.

The figures in this example prove conclusively that St. Regis Packaging Systems are just as applicable to small packaging operations as they are to operations that require batteries of high-speed packers. Call in a St. Regis field representative to advise you on the type packer that will best suit your needs.

COST COMPARISON

	100 lb. Burlap Bags	100 lb. Paper Bags
Bag cost per M	$296.20	$117.85
Bag cost per 100 lbs.	.296	.118
Labor cost per 100 lbs.	.125	.050
Total bag and labor cost per 100 lbs.	.421	.168
Savings per 100 lbs. paper over fabric		.253
Savings per ton, paper over fabric		5.06

DETAILS OF LABOR COSTS

Burlap Bags (with paper liners)		Production per hour	Cost per 100 lbs.
1—Man filling at .82 per hour	$.82		
1—Man weighing at .82 per hour	.82		
1—Man sewing at .89 per hour	.89		
3—Men handling at .82 per hour	2.46		
6—Men in all	$4.99	4000 lbs.	.125
Multiwall Paper Valve Bags			
1—Man filling and check-weighing at	.82		
3—Men handling at .82 per hour	2.46		
4—Men in all	$3.28	6500 lbs.	.050

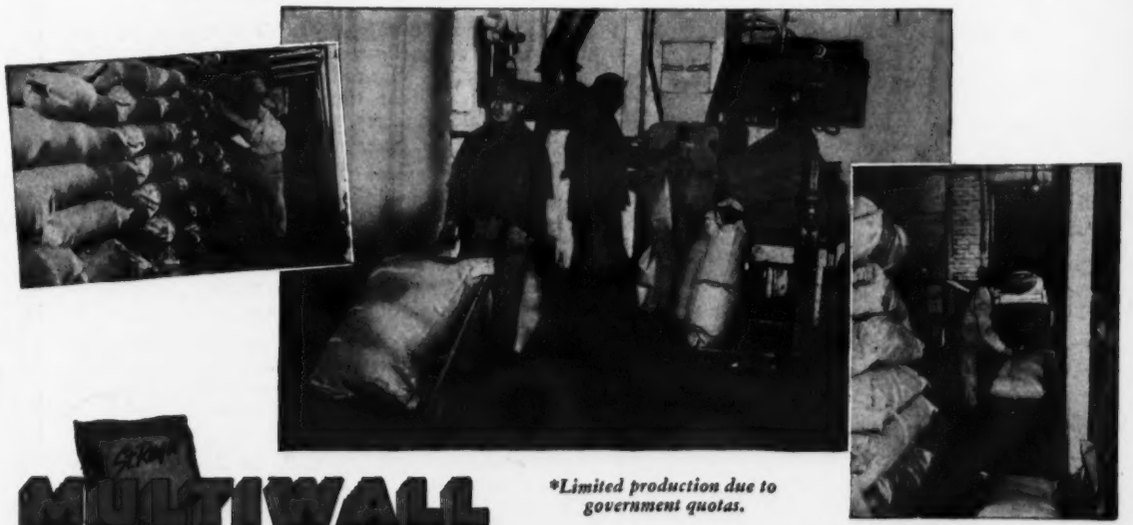
CLASS OF PRODUCT PACKED

CEMENT	FERTILIZER ✓
CHEMICALS	FOOD
FEEDSTUFFS	MISCELLANEOUS

PRODUCT CHARACTERISTICS

ABRASIVE	GRANULAR
CORROSIVE	HEAVY
DELIQUESCENT ✓	HYGROSCOPIC ✓
FLUFFY ✓	LIGHT
FREE-FLOWING	VISCOUS

ST. REGIS BAG PACKAGING SYSTEMS are made in a variety of capacities, speeds, and manpower requirements to suit specific products and plant layouts. Machines are available in types to meet the special characteristics of a wide range of products, with filling speeds as high as twenty-four 100-lb. bags per minute—with one operator.



MULTIWALL

Limited production due to government quotas.

ST. REGIS SALES CORPORATION

(Sales Subsidiary of St. Regis Paper Company)

NEW YORK 17: 230 Park Ave. CHICAGO 1: 230 No. Michigan Ave.
BALTIMORE 2: 2601 O'Sullivan Bldg. SAN FRANCISCO 4: 1 Montgomery St.

Mail this coupon for the complete story

Birmingham Boston Cleveland Dallas Denver Detroit
Franklin, Va. Los Angeles Nazareth, Pa. New Orleans
No. Kansas City, Mo. Ocala, Fla. Oswego, N. Y. Seattle Toledo

IN CANADA: St. Regis Paper Co. (Can.) Ltd., Montreal, Vancouver.

Without obligation, please send me full details regarding "Case History" No. 5, outlined above.

NAME_____

COMPANY_____

ADDRESS_____